APPENDIX B

Material Safety Data Sheets
For
Viable Alternatives Selected for Testing
Under this Project

product data

carboline®

Carbothane® 134 HB

Selection & Specification Data

Generic Type
Two component, acrylic, aliphatic polyurethane.

Description
Carbothane 134 HB is a fast dry, high gloss, high build, two component polyurethane coating. Carbothane 134 HB exhibits excellent dry times and handling characteristics. This coating has outstanding hardness, adhesion and resistance to: impact, marring, abrasion, chemicals and staining. Typical applications include structural steel, tanks, equipment or others as typically found in both industrial and architectural projects. Not recommended for continuous immersion service.

Features
- VOC compliant – 3.3 pounds per gallon as supplied
- Fast Dry – 6-8 hours to handle at 75°F
- High build, high gloss
- Excellent abrasion resistance
- Application by conventional, airless spray, HVLP or electrostatic
- Excellent chemical resistance
- Meets SSPC Paint Spec 36; Level 3

Color
Available in a wide variety of colors

Finish
High Gloss

Primers
Use over epoxy, zinc rich epoxy or as recommended by Carboline

Dry Film Thickness
3 – 5 mils per coat (75-125 microns).

Solids Content
By Volume: 54% ± 2%

Theoretical Coverage Rate per Gallon
288 ft^2 at 3 mils (75 microns)
216 ft^2 at 4 mils (100 microns)
173 ft^2 at 5 mils (125 microns)
Mixing and application losses will vary and must be taken into consideration when estimating job requirements.

VOC Values
As supplied: 3.3 lbs/gal (395 g/l)
Thinned:
6 oz/gal w/ #25: 3.5 lbs/gal (419 g/l)
These are nominal values.

Ratio By Volume
4:1 Ratio
4 parts Carbothane 134 HB Part A
1 part Converter (Part B)

Pot Life
2 Hours at 75°F (24°C) unthinned
Pot life decreases at higher temperatures. Pot life ends when coating becomes too viscous to use. This product is moisture sensitive. Avoid moisture contamination.

Dry Temp. Resistance
Continuous: 200°F (93°C)
Non-Continuous: 250°F (121°C)
Discoloration is observed above 180°F (82°C).

Substrates & Surface Preparation

General
Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other contaminants that could interfere with adhesion of the coating.

Steel
Prime with appropriate primer.

Primed Surfaces
Remove any oil or grease from the surface to be coated with Thinner #2 or Carboline Surface Cleaner #3 (Refer to Data Sheet) in accordance with SSPC-SP1.

Curing Schedule

Ambient, Material & Surface Temperature	Dry to Touch	Dry to Handle or Assemble	Dry to Full Cure
75°F (24°C)	60-90 minutes	6-8 hours	7-14 days

These times are based on a 4.0 mil (100 micron) dry film thickness. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure. Note: Product may be force cured.

March 2004 replaces November 2003 0803

To the best of our knowledge the technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. User must contact Carboline Company to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. We guarantee our products to conform to Carboline quality control. We assume no responsibility for coverage, performance or injuries resulting from use. Liability, if any, is limited to replacement of products. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY CARBOLINE, EXPRESS OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Carboline® and Carbothane® are registered trademarks of Carboline Company.

Carbothane® 134 HB

Application Equipment

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

General Guidelines:

Spray Application (General) The following spray equipment has been found suitable and is available from manufacturers such as Binks, DeVilbiss and Graco.

Conventional Spray Pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, .070" I.D. fluid tip and appropriate air cap.

Airless Spray

Pump Ratio:	30:1 (min.)
GPM Output:	3.0 (min.)
Material Hose:	3/8" I.D. (min.)
Tip Size:	.011-.015"
Output PSI:	2500-2800
Filter Size:	60 mesh

Teflon packings are recommended and available from the pump manufacturer.

Touch Up Respray or brush. Brushing recommended only for touchup of small areas. Use natural bristle brush applying with full strokes.

Mixing & Thinning

Mixing For plural component application equipment follow the equipment manufacturer's instructions. For batch mixing, power mix part A separately, then combine and power mix thoroughly in the following proportions:
THIS PRODUCT IS MOISTURE SENSITIVE. AVOID MOISTURE CONTAMINATION. DO NOT MIX PARTIAL KITS.

Ratio 4:1 Ratio (A to Converter)

	1 Gallon Kit	5 Gallon Kit
134 HB Part A	.8 gallons (in 1 gallon can)	4 gallons (in 5 gallon can)
Urethane Converter	25.6 fluid ozs.	1 gallon

Thinning Normally not required. May be thinned up to 6 oz/gal (5%) with #25. Thinner #97 used when applying 134 HB in very hot conditions. Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.

Pot Life 2 hours at 75°F (24°C).

Application Conditions

Condition	Material	Surface	Ambient	Humidity
Normal	60°-85°F (16°-29°C)	60°-85°F (16°-29°C)	60°-85°F (16°-29°C)	40-60%
Minimum	50°F (10°C)	35°F (2°C)	35°F (2°C)	10%
Maximum	130°F (54°C)	120°F (50°C)	95°F (35°C)	80%

Industry standards are for substrate temperatures to be 5°F (3°C) above the dew point.

Caution: This product is moisture sensitive in the liquid stage and until fully cured. Protect from high humidity, dew and direct moisture contact until fully cured. Application and/or curing in humidities above maximum, or exposure to moisture from rain or dew may result in loss of gloss and/or microbubbling of the product.

Cleanup & Safety

Cleanup Use Thinner #2 or Acetone. In case of spillage, absorb and dispose of in accordance with local applicable regulations.

Safety Read and follow all caution statements on this product data sheet and on the MSDS for this product. Employ normal workmanlike safety precautions. Hypersensitive persons should wear protective clothing, gloves and use protective cream on face, hands and all exposed areas.

Ventilation When used in enclosed areas, thorough air circulation must be used during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. User should test and monitor exposure levels to insure all personnel are below guidelines. If not sure or if not able to monitor levels, use MSHA/NIOSH approved supplied air respirator.

Caution This product contains flammable solvents. Keep away from sparks and open flames. All electrical equipment and installations should be made and grounded in accordance with the National Electric Code. In areas where explosion hazards exist, workmen should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

Packaging, Handling & Storage

	1 Gallon Kit	5 Gallon Kit
Shipping Weight 134 HB (Approximate)	15 lbs. (6 kg)	58 lbs. (22 kg)
Thinner #25	8 lbs. (4 kg)	41 lbs. (19kg)
Thinner #97	8 lbs. (4 kg)	41 lbs. (19kg)

Flash Point (Setaflash)

Part A:	58°F (14°C)
Converter:	28°F (-2°C)
Thinner #25:	90°F (32°C)

Storage (General) Store Indoors.

Storage Temperature & Humidity 40° - 110°F (4-43°C)
0-80% Relative Humidity

Shelf Life Part A: Min. 36 months at 75°F (24°C)
Converter: Min. 24 months at 75°F (24°C)

***Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.**

carboline®
350 Hanley Industrial Court, St. Louis, MO 63144-1599
314/644-1000 314/644-4617 (fax) www.carboline.com
An RPM Company

March 2004 replaces November 2003

To the best of our knowledge the technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. User must contact Carboline Company to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. We guarantee our products to conform to Carboline quality control. We assume no responsibility for coverage, performance or injuries resulting from use. Liability, if any, is limited to replacement of products. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY CARBOLINE, EXPRESS OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Carboline® and Carbothane® are registered trademarks of Carboline Company.

SECTION I - PRODUCT: CARBOTHANE 134HB PART A (0803A1NL)
Date: 02/23/04

CHEMTREC TRANSPORTATION EMERGENCY PHONE NO.: 800-424-9300
PITTSBURGH POISON CONTROL CENTER HEALTH EMERGENCY NO.: 412-681-6669

SECTION II - HAZARDOUS INGREDIENTS EXPOSURE LIMITS

CHEMICAL NAME	(A)	(B)	(C)	(D)	(E)
SILICA	14808-60-7	25%	0.1MG/M3	NE	NE
BUTYL ACETATE	123-86-4	25%	150 PPM	200 PPM	NE
COLOR PIGMENT	MIXTURE	5%	3.5MG/M3	NE	NE
XYLENE	1330-20-7	5%	100 PPM	150 PPM	NE
PM ACETATE	108-65-6	5%	100PPM	150PPM	NE
METHYL N-AMYL KETONE	110-43-0	5%	50 PPM	100 PPM	NE
METHYL ETHYL KETONE	78-93-3	5%	200 PPM	300 PPM	NE
ETHYL BENZENE	100-41-4	1%	100 PPM	125 PPM	NE

HAZARDOUS INGREDIENTS ADDITIONAL DATA

CHEMICAL NAME	(F)	(G)
SILICA	NOT AVAILABLE	NO/NO/NR/NO
BUTYL ACETATE	7.4 G/KG RABBIT ORAL >1800 PPM/6H INHALATION	NO/NO/1,2,3
COLOR PIGMENT	NOT AVAILABLE	NO/YES
XYLENE	4300MG/KG RAT,ORAL 15000 PPM/4HRS RAT,INHALATION	NO/YES/1,2,3/ 100#/U239
PM ACETATE	NOT AVAILABLE	NO/NO/1,2,3
METHYL N-AMYL KETONE	1670 MG/KG RAT ORAL 12.6 ML/KG RABBIT DERMAL	NO/NO/3
METHYL ETHYL KETONE	2737MG/KG RAT,ORAL 2000PPM/H HRS RAT,INHALATION	NO/YES/1,2,3/ 5000
ETHYL BENZENE	NOT AVAILABLE	NO/YES/1,2,3/ 1000#

TABLE (A) CAS NUMBER (B) LESS THAN WT (C) TLV-TWA (D) STEL (E) CEILING (F) TOXICITY DATA (LD50/Route,LC50/Route) (G) SARA 302/SARA 313/ SARA 311-312 CATEGORIES/CERCLA. NE = not established, NR = not required, NO = no. Color Pigment Mixture may contain Iron Oxides, Titanium Dioxide, Carbon Black, and other particulates not otherwise regulated in varying amounts depending on color of product.

WHMIS CLASSIFICATION: B2 -- D2A -- D2B
HMIS/NFPA CLASSIFICATION: HEALTH 2, FLAMMABILITY 3, REACTIVITY 0, PERSONAL PROTECTION CODE G, NFPA FIRE FIGHTING PHASE 4

SECTION III - PHYSICAL DATA:

BOILING RANGE: 175F(79C)-300F(148C). VAPOR DENSITY: Heavier than air. EVAPORATION RATE: Slower than ether. VOLATILE BY WEIGHT 34 %. VOLATILE BY VOLUME: 46 %. PRODUCT WT/GAL: 9.7 LBS/U.S.GAL. 1.16 sp gr.

PRODUCT: CARBOTHANE 134HB PART A (0803A1NL)
Date: 02/23/04

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

FLAMMABILITY CLASSIFICATION: FLASH POINT: 58 F(14C) (Setaflash) LEL 1.0 % UEL 13.1 %.
OSHA-FLAMMABLE LIQUID/OSHA/CLASS/1B, DOT-PAINT,3,UN1263,PGII, CANADIAN TDGA: PAINT,3,UN1263,PGII
EXTINGUISHING MEDIA: Dry Chemical, Foam, Carbon Dioxide, Water Fog.
FIRE AND EXPLOSION HAZARDS: Vapors are heavier than air and will accumulate. Vapors will form explosive concentrations with air. Vapors travel long distances and will flashback. Use mechanical ventilation when necessary to keep percent vapor below the "Lower Explosion Level" (LEL). Eliminate all ignition sources. Keep away from sparks, open flames and heat sources. All electric equipment and installations should be made and grounded in accordance with the National Electrical Code. In areas where explosion hazards exist, workers should be required to use nonferrous tools and to wear conductive and non-sparking shoes.
SPECIAL FIRE FIGHTING PROCEDURES: Evacuate hazard area of unprotected personnel. Use a NIOSH approved self-contained breathing unit and complete body protection. Cool surrounding containers with water in case of fire exposure.

SECTION V - HEALTH HAZARD DATA:

INHALATION: Harmful if inhaled, may affect the brain or nervous system, causing dizziness, headache or nausea. May cause nose and throat irritation.
CONTACT: May cause eye irritation. May cause skin irritation.
NOTICE: Contains SILICA which can cause cancer. Risk of cancer depends on duration and level of exposure. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.
MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: If you have a condition that could be aggravated by exposure to dust or organic vapors see a physician prior to use.
PRIMARY ROUTE(S) OF ENTRY: Inhalation, Dermal, Ingestion.
EMERGENCY FIRST AID PROCEDURES: When exposed always get medical attention.
EYE CONTACT: Flush with water for 15 minutes.
SKIN CONTACT: Wash with soap and water. Remove contaminated clothing and clean before reuse.
INHALATION: Remove to fresh air. Provide oxygen if breathing is difficult. Use artificial respiration if not breathing. Get medical attention.
IF SWALLOWED: DO NOT INDUCE VOMITING!! Always get medical attention.

SECTION VI - REACTIVITY DATA:

STABILITY: This product is stable under normal storage conditions.
HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, nitrogen oxides, and unidentified organic compounds. Consider all smoke and fumes from burning

material as very hazardous. Welding, cutting or abrasive grinding can create smoke and fumes. Do not breathe any fumes or smoke from these operations.
CONDITIONS TO AVOID: Heat, sparks, and open flames.
INCOMPATIBILITY: Avoid contact with strong oxidizing agents.

SECTION VII - SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE OF SPILL: Eliminate all ignition sources. Handling equipment must be grounded to prevent sparking. Evacuate the area of unprotected personnel. Wear appropriate personal protection clothing and equipment. Follow safe handling and use guidelines in Section VIII. Contain and soak up residual with an absorbent (clay or sand). Take up absorbent material and seal tightly for proper disposal. Dispose of in accordance with local, state and federal regulations. Refer to Section II for Sara Title III and CERCLA information.

SECTION VIII - SAFE HANDLING AND USE INFORMATION:

RESPIRATORY PROTECTION: Use only with ventilation to keep levels below exposure guidelines. (Section II). User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use MSHA/NIOSH approved supplied air respirator. Follow all current OSHA requirements for respirator use.
VENTILATION: Use explosion-proof ventilation when required to keep below health exposure guidelines and Lower Explosion Limit (LEL).
SKIN AND EYE PROTECTION: Recommend impervious gloves, clothing and safety glasses with side shields or chemical goggles to avoid skin and eye contact. If material penetrates to skin, change gloves and clothing. Hypersensitive persons should wear gloves or use protective cream.
HYGIENIC PRACTICES: Wash with soap and water before eating, drinking, applying cosmetics, or using toilet facilities. Use of a hand cleaner is recommended. Launder contaminated clothing before reuse. Leather shoes can absorb and pass through hazardous materials. Check shoes carefully after soaking before reuse.
APPLICATION: Use only in accordance with Carboline application instructions, container label and Product Data Sheet.

SECTION IX - SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep away from heat, sparks, open flame, and strong oxidizing agents. Keep containers closed. Store in cool, dry place with adequate ventilation. If pouring or transferring materials, ground all containers and tools.
OTHER PRECAUTIONS: Do not weld, heat, cut or drill on full or empty containers.

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages

incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations.

Carboline Company 350 Hanley Ind. Ct. St. Louis, MO 63144
PHONE NO. 314-644-1000 FOR INDUSTRIAL USE ONLY

SPECIFIC STATE REGULATORY INFORMATION

NEW JERSEY
PENNSYLVANIA
Non-Hazardous Materials above 1 Percent:

Name	CAS	Pct
ACRYLIC COPOLYMER		40%
POLYESTER POLYOL	TRADE SECRET	5%

CALIFORNIA

WARNING: This product contains a chemical(s) known to the State of California to cause cancer, and birth defects or other reproductive harm.

SECTION I - PRODUCT: URETHANE CONVERTER 8800 (8808B1NL)
Date: 04/28/03 Replaces 03/13/00

CHEMTREC TRANSPORTATION EMERGENCY PHONE NO.: 800-424-9300
PITTSBURGH POISON CONTROL CENTER HEALTH EMERGENCY NO.: 412-681-6669

SECTION II - HAZARDOUS INGREDIENTS EXPOSURE LIMITS

CHEMICAL NAME	(A)	(B)	(C)	(D)	(E)
POLYMERIC HDI	28182-81-2	65%	NE	NE	NE
METHYL ETHYL KETONE	78-93-3	35%	200 PPM	300 PPM	NE
AROMATIC SOLVENT	64742-95-6	5%	25PPM	NE	NE
BUTYL ACETATE	123-86-4	5%	150 PPM	200 PPM	NE
HDI ISOCYANATE	822-06-0	1%	0.005PPM	0.02PPM	NE

HAZARDOUS INGREDIENTS ADDITIONAL DATA

CHEMICAL NAME	(F)	(G)
POLYMERIC HDI	>5,000 MG/KG RAT ORAL 137-1150 MG/M3 4 HOURS; RAT	NO/NO/1,2,3,5
METHYL ETHYL KETONE	2737MG/KG RAT,ORAL 2000PPM/H HRS RAT,INHALATION	NO/YES/1,2,3/ 5000
AROMATIC SOLVENT	4700MG/KG RAT,ORAL 3670PPM/8HRS RAT,INHALATION	NO/YES/1/2/3
BUTYL ACETATE	7.4 G/KG RABBIT ORAL >1800 PPM/6H INHALATION	NO/NO/1,2,3
HDI ISOCYANATE	710MG/KG ORAL 570MG/KG DERMAL 23PPM 4 HRS	NO/NO

TABLE (A) CAS NUMBER (B) LESS THAN WT (C) TLV-TWA (D) STEL (E) CEILING (F) TOXICITY DATA (LD50/Route,LC50/Route) (G) SARA 302/SARA 313/ SARA 311-312 CATEGORIES/CERCLA. NE = not established, NR = not required, NO = no. Color Pigment Mixture may contain Iron Oxides, Titanium Dioxide, Carbon Black, and other particulates not otherwise regulated in varying amounts depending on color of product.

WHMIS CLASSIFICATION: B2 -- D2A -- D2B
HMIS/NFPA CLASSIFICATION: HEALTH 3, FLAMMABILITY 3, REACTIVITY 1, PERSONAL PROTECTION CODE G, NFPA FIRE FIGHTING PHASE 4

SECTION III - PHYSICAL DATA:

BOILING RANGE: 175F(79C)-355F(179C). VAPOR DENSITY: Heavier than air. EVAPORATION RATE: Slower than ether. VOLATILE BY WEIGHT 39 %. VOLATILE BY VOLUME: 48 %. PRODUCT WT/GAL: 8.3 LBS/U.S.GAL. 1.00 sp gr.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

FLAMMABILITY CLASSIFICATION: FLASH POINT: 28 F(-2C) (Setaflash) LEL 1.0 % UEL 10.4 %.
OSHA-FLAMMABLE LIQUID/OSHA/CLASS/1B, DOT-FLAMMABLE LIQUID,NOS*,3,UN1993,PGII, CANADIAN TDGA: FLAMMABLE LIQUID,NOS*,3,UN1993,PGII
EXTINGUISHING MEDIA: Dry Chemical, Foam, Carbon Dioxide, Water Fog.

PRODUCT: URETHANE CONVERTER 8800 (8808B1NL)
Date: 04/28/03 Replaces 03/13/00

FIRE AND EXPLOSION HAZARDS: Vapors are heavier than air and will accumulate. Vapors will form explosive concentrations with air. Vapors travel long distances and will flashback. Use mechanical ventilation when necessary to keep percent vapor below the "Lower Explosion Level" (LEL). Eliminate all ignition sources. Keep away from sparks, open flames and heat sources. All electric equipment and installations should be made and grounded in accordance with the National Electrical Code. In areas where explosion hazards exist, workers should be required to use nonferrous tools and to wear conductive and non-sparking shoes.
SPECIAL FIRE FIGHTING PROCEDURES: Evacuate hazard area of unprotected personnel. Use a NIOSH approved self-contained breathing unit and complete body protection. Cool surrounding containers with water in case of fire exposure.

SECTION V - HEALTH HAZARD DATA:

INHALATION: Harmful if inhaled, may affect the brain or nervous system, causing dizziness, headache or nausea. May cause nose and throat irritation. May cause lung irritation. Contains HEXAMETHYLENE DIISOCYANATE which may cause allergic respiratory reaction, effects may be permanent.
CONTACT: May cause eye irritation. May cause skin irritation. May cause allergic skin reaction.
NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.
MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: If sensitized to isocyanates or other chemicals do not use. See a physician if a medical condition exists.
PRIMARY ROUTE(S) OF ENTRY: Inhalation, Dermal, Ingestion.
EMERGENCY FIRST AID PROCEDURES: When exposed always get medical attention.
EYE CONTACT: Flush with water for 15 minutes.
SKIN CONTACT: Wash with soap and water. Remove contaminated clothing and clean before reuse.
INHALATION: Remove to fresh air. Provide oxygen if breathing is difficult. Use artificial respiration if not breathing. Get medical attention.
IF SWALLOWED: DO NOT INDUCE VOMITING!! Always get medical attention.

SECTION VI - REACTIVITY DATA:

STABILITY: This product is stable under normal storage conditions.
HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, nitrogen oxides, and unidentified organic compounds. Consider all smoke and fumes from burning material as very hazardous. Welding, cutting or abrasive grinding can create smoke and fumes. Do not breathe any fumes or smoke from these operations.
CONDITIONS TO AVOID: Heat, sparks, and open flames.
INCOMPATIBILITY: Avoid contact with strong oxidizing agents.

PRODUCT: URETHANE CONVERTER 8800 (8808B1NL)
Date: 04/28/03 Replaces 03/13/00

SECTION VII - SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE OF SPILL: Eliminate all ignition sources. Handling equipment must be grounded to prevent sparking. Evacuate the area of unprotected personnel. Wear appropriate personal protection clothing and equipment. Follow safe handling and use guidelines in Section VIII. Contain and soak up residual with an absorbent (clay or sand). Take up absorbent material and seal tightly for proper disposal. Dispose of in accordance with local, state and federal regulations. Refer to Section II for Sara Title III and CERCLA information.

SECTION VIII - SAFE HANDLING AND USE INFORMATION:

RESPIRATORY PROTECTION: Use only with ventilation to keep levels below exposure guidelines. (Section II). User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use MSHA/NIOSH approved supplied air respirator. Follow all current OSHA requirements for respirator use.
VENTILATION: Use explosion-proof ventilation when required to keep below health exposure guidelines and Lower Explosion Limit (LEL).
SKIN AND EYE PROTECTION: Recommend impervious gloves, clothing and safety glasses with side shields or chemical goggles to avoid skin and eye contact. If material penetrates to skin, change gloves and clothing. Hypersensitive persons should wear gloves or use protective cream.
HYGIENIC PRACTICES: Wash with soap and water before eating, drinking, applying cosmetics, or using toilet facilities. Use of a hand cleaner is recommended. Launder contaminated clothing before reuse. Leather shoes can absorb and pass through hazardous materials. Check shoes carefully after soaking before reuse.
APPLICATION: Use only in accordance with Carboline application instructions, container label and Product Data Sheet.

SECTION IX - SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep away from heat, sparks, open flame, and strong oxidizing agents. Keep containers closed. Store in cool, dry place with adequate ventilation. If pouring or transferring materials, ground all containers and tools.
OTHER PRECAUTIONS: Do not weld, heat, cut or drill on full or empty containers.

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations.

PRODUCT: URETHANE CONVERTER 8800 (8808B1NL)
Date: 04/28/03 Replaces 03/13/00

Carboline Company 350 Hanley Ind. Ct. St. Louis, MO 63144
PHONE NO. 314-644-1000 FOR INDUSTRIAL USE ONLY

SPECIFIC STATE REGULATORY INFORMATION

NEW JERSEY
PENNSYLVANIA
Non-Hazardous Materials above 1 Percent:

Name	CAS	Pct
No materials meet this criteria		

CALIFORNIA

WARNING: This product contains a chemical(s) known to the State of California to cause cancer, and birth defects or other reproductive harm.

DEVTHANE™ 359

DTM High Build Gloss Aliphatic Urethane Mastic

Cat. # 359KXXXX

ICI Devoe Coatings is a member of the ICI Paints World Group

PRODUCT DESCRIPTION

Generic: Acrylic Aliphatic Urethane

General Description: A high build, high performance, two-component chemically-cured aliphatic urethane gloss enamel for use in areas where maximum gloss & color retention are required.

Typical Uses: For use on properly prepared steel, concrete or steel floors, masonry, drywall, plaster, metal, concrete block, galvanized, aluminum, poured concrete, and glazed brick. Ideal for use on exterior or interior structural steel, piping, metal buildings, control cabinetry, conveyors, pumps, storage tanks, motors, machinery, and transportation vehicles. Can also be used in the hard service areas of food processing plants, dairies, schools, restaurants, hospitals, correctional facilities, factories, stadiums, arenas, and amusement parks.

Special Qualifications: Suitable for use on structural surfaces or surfaces where there is a possibility of incidental food contact in commercial food preparation establishments, food processing plants and federally inspected meat and poultry plants. USDA no longer requires or furnishes product certification letters.

FEATURES

Advantages:

- Excellent gloss and color retention
- Excellent abrasion and chemical resistance
- Low VOC
- Easily applied by brush, roller or spray
- Wide color selection, including safety colors
- Excellent resistance to marring, chipping, and scratching
- High Build
- Excellent application properties
- May be used direct to metal

Limitations of Use: Color may change as temperature approaches 250°F (121°C) limit, but the film will remain intact.

SPECIFICATION DATA

Color: Available in white, black and a full range of custom colors

Finish: High Gloss

Reduction Solvent: T-9 for spray, T-17 for brush or roller

Clean-up Solvent: T-9 Thinner

Weight/Gallon: 10.3 lbs./gal. (1.23 kg/L) – varies with color

VOC (EPA 24)**:** 2.8 lbs./gal. (340 g/L) – varies with color

Solids By Volume (ASTM 2697-7 days)**:** 60%

Theoretical Coverage at 1.0 Mil (25 microns)**Dry:** 962 sq. ft., (23.7 m^2/L)

Recommended Film Thickness: 4.0-6.0 mils (100-150 microns) dry – 6.7-10.0 mils (168-250 microns) wet. Direct to metal application requires a dry film thickness of 5-6 mils (125-150 microns)

Systems: Please consult the appropriate system guide, the particular job specification or your ICI Devoe Coatings' Industrial Coatings Specialist for proper systems using this product. Systems must be selected considering the particular environment involved.

Service Temperature Limits: 250°F (121°C) dry

Minimum Dry Time (ASTM D 1640)**:** 4 mils (200 microns) DFT

Substrate Temperature	40°F (4°C)	60°F (16°C)	80°F (27°C)
Minimum Recoat	8 hours	5 hours	3 hours
Dry Hard	14 hours	9 hours	5 hours
Maximum Recoat			
Self	2 weeks	2 weeks	2 weeks

Ventilation, film thickness, humidity, thinning, and other factors can influence the rate of dry.

Warning: The above table provides general guidelines only. Always consult your ICI Devoe Coatings Specialist for appropriate recoat windows since the maximum aged recoat time of this product may be significantly shortened or lengthened by a variety of conditions, including, but not limited to humidity, surface temperature, and the use of additives or thinners. The use of accelerators or force curing may shorten the aged recoat of individual coatings. The above recoat windows may not apply if recoating with a product other than those listed above. If the maximum aged recoat window is exceeded, please consult your ICI Industrial Coatings Specialist for appropriate recommendations to enhance adhesion. Failure to observe these precautions may result in intercoat delamination.

Shelf Life: Over 12 months at 77°F (25°C) – unopened

Hardness (ASTM D 3363 – 7 day cure @ 77°F (25°C)**:** 5H

Mix Ratio By Volume: 4 (base): 1 (converter) – see mixing instructions.

Induction: None

Pot Life: 8 hours @ 77°F (25°C) & 50% R.H.

PERFORMANCE DATA

Adhesion: (ASTM D 4541) – Excellent

Salt Spray Resistance: (ASTM B 117) – Excellent

Abrasion Resistance: (ASTM D 4060) – Excellent

Humidity Resistance: (ASTM D 2247) – Excellent

Exterior Exposure: 45° South Florida – Excellent

Chemical Resistance: (ASTM D 1308 – 24 hr. contact) Excellent. Resists splash and spillage of alkalis, salts, moisture, oils, greases, foodstuffs and detergents.

Stain Resistance: (ASTM D 1308 – 1 week contact) Excellent. Resists stains such as crayon, lipstick, coffee, soil medium, shoe polish, grape juice, ink pen, marker, and spray paint.

ICI DEVOE COATINGS
A member of the ICI Paints World Group

ICI DEVOE COATINGS
A member of the ICI Paints World Group

9 FINISHES | SPECIAL COATINGS (9800)

DANGER! FLAMMABLE. HARMFUL OR FATAL IF SWALLOWED. Read label and Material Safety Data Sheet Prior to Use. See other cautions on last page. DSF3-0696

GENERAL SURFACE PREPARATION

All surfaces must be sound, clean, dry, and free of oil, grease, mildew, form release agents, curing compounds, laitance, and other foreign matter. To insure the best appearance, the primer or undercoat should be smooth and free of any surface defects such as runs, dry spray or heavy orange peel.

New Surfaces: Steel – For direct to steel application, abrasive blast to near- white metal surface cleanliness in accordance with SSPC-SP-10 or SSI-Sa2 1/2. Blast profile on steel should be 1 1/2 to 2 1/2 mils (38-63 microns) in depth and be of a sharp, jagged nature as opposed to a "peen" pattern (from shot blasting) or clean and prime with DEVRAN® 224HS, BAR-RUST™ 235 or BAR-RUST 233H Epoxy. **Concrete Block –** Fill with DEVRAN 224HS, BAR-RUST 235 or BAR-RUST 233H Epoxy. **Fiberglass –** Solvent wipe, scuff sand and solvent wipe again. Prime with DEVRAN 201. **Concrete Floors, Poured Concrete –** Cure at least 30 days. Acid etch or abrasive blast slick, glazed concrete or concrete with laitance. Prime with DEVRAN 224HS, BAR-RUST 235 or BAR-RUST 233H Epoxy thinned 25% with recommended thinner or use PRE-PRIME™ 167 Penetrating Sealer. **Drywall –** Prime with a premium acrylic latex vapor barrier primer-sealer. **Galvanized Steel and Aluminum –** Remove dirt and oils by solvent cleaning or with Devoe Coatings DEVPREP® 88 Cleaner followed by a thorough water rinsing. Prime with DEVRAN 201 or 205 Epoxy Primers. For direct to metal use, brush-off blast in accordance with SSPC-SP-7 to create a surface profile.

Previously Painted Surfaces: Remove loose and peeling paint. Scuff sand glossy areas. Old coatings should be tested for lifting and bleeding. If they lift or bleed, remove them. Prime bare areas with a primer specified under **New Surfaces**.

DIRECTIONS FOR USE

Tinting: Tint the appropriate base with CHROMA-CHEM 844 colorants. (Do not use water based or other colorants.) Add colorants to only the base portion. Mix thoroughly before adding the converter portion. When using Devthane 359 direct to metal, best results are obtained using ready mixed colors.

Thinning: Thinning is not normally required. However, depending on local VOC and air quality regulations, small amounts (5% or less) of the solvents on the reverse page may be added. Small amounts (5% or less) of Devoe Coatings T-17 Thinner will improve roller or brush applications. If local VOC and/or air quality regulations are not an issue, and depending on the individual set-up of the spray equipment, additional thinning may be allowed to obtain the desired individual finish. Contact your local ICI Devoe Coatings Representative for additional information.

Mixing: DEVTHANE 359 Enamel is a two-component product supplied in 5 gallon or 1 gallon kits which contain the proper ratio of ingredients. The entire contents of each container must be mixed together. It is important that all mixing equipment is free of moisture and that moisture does not contaminate the coating. Mix the base portion to obtain a smooth, homogeneous condition. After mixing the base portion, add the converter slowly with continued agitation. Mix thoroughly. The pot life of the mixed material is 8 hours at 77° (25°C). Higher temperatures will reduce working life of the coating; lower temperatures will increase it.

Application: Apply by airless spray, air spray, roller or brush. For airless spray, any air, electric, or gas operated airless sprayer capable of 3,000 psi (207 bars) and able to support a .015'' to .019'' tip sizes can be used. Multiple guns and long fluid lines require pumps with adequate capacity. For air spray application, use a DeVilbiss MBC-510 Gun, “E” or “D” Tip and 704 air cap or equivalent. Adust fluid and air pressure to get a good spray pattern. Brushing and rolling may require multiple coats to achieve correct film thickness and/or hiding.

Note: Be sure all spray equipment and fluid lines are clean, and free of water or non-compatible solvents. For brush application, use good quality, dry, clean brushes. For roller application, use short nap, new rollers. Do not apply over wet surfaces or under very humid conditions where condensation or fog could settle on the coating during the cure process.

Spreading Rate: Apply at 160-241 sq. ft. per gallon (3.9-5.9 m^2/L) depending on surface texture and porosity. Make allowance for any losses due to overspray or surface irregularities.

Dry Time: At 70°F (21°C) & 50% R.H., dries to recoat in 5 hours and dries hard in 7 hours.

Clean-up: Use T-9 Thinner.

Cure Acceleration: Urethane catalyst 070A0000 may be used to accelerate cure at or below 40°F (5°C). The addition of one or two ounces per gallon will decrease the dry hard time approximately one-third to one-half respectively at 40°F (5°C). The pot life will be reduced one-half to three-fourths.

PRECAUTIONS

DANGER! FLAMMABLE LIQUID AND VAPOR. CAUSES EYE AND SKIN BURNS. HARMFUL OR FATAL IF SWALLOWED. ASPIRATION HAZARD-CAN ENTER LUNGS AND CAUSE DAMAGE. HARMFUL IF INHALED. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS, INCLUDING DIZZINESS, HEADACHE OR NAUSEA. CAUSES RESPIRATORY TRACT IRRITATION. MAY CAUSE ALLERGIC SKIN AND RESPIRATORY REACTION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. OVEREXPOSURE MAY CAUSE BLOOD, LIVER, KIDNEY DAMAGE. USE ONLY WITH ADEQUATE VENTILATION. KEEP OUT OF THE REACH OF CHILDREN. NOTICE: This product contains solvents. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. For emergency information call (800) 545-2643. For additional safety information, refer to the Material Safety Data Sheet for this product. Keep away from heat, sparks and flame. **Do not** smoke. Vapors may ignite. Extinguish all flames, burners, stoves, heaters and pilot lights and disconnect all electrical motors and appliances before use and until all vapors are gone. If sanding is done, wear a dust mask to avoid breathing of sanding dust. Do not breathe vapors or spray mist. If you experience eye watering, headaches, or dizziness, leave the area. If properly used, a respirator may offer additional protection. Obtain professional advice before using. Close container after each use. **FIRST AID:** In case of skin contact, wash off **quickly** with plenty of soap and water, remove contaminated clothing. For eye contact flush **immediately** with large amounts of water, for at least 15 minutes. **Obtain emergency medical treatment.** If swallowed, **obtain medical treatment immediately.** If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs, **get medical help. Note: These warnings encompass the product series. Prior to use, read and follow product-specific MSDS and label information.**

DS212-0499

SHIPPING

Freight Classification: Paint, 3, PG III, UN1263 (Flammable Liquid)
Flash Point: 80°F (27°C)

Packaging:

1 gallon kit (3.785L)	5 gallon kit (18.925L)
0.80 gallon base	4.00 gallon base
0.20 gallon converter	1.00 gallon converter

Shipping Weight: 4 - 1 gallon kits - 60 lbs. (27.2kg)
5 gallon kit - 66 lbs. (29.9 kg)

359KXXXX (8/01)
Ad Stock #68656B

DEVOE HIGH PERFORMANCE COATINGS
ICI Devoe Coatings is a member of the ICI Paints World Group
Cleveland, Ohio, U.S.A.
800-654-2616
www.devoecoatings.com

LIMITATION OF LIABILITY: To the best of our knowledge, the technical data contained herein are true and accurate at the date of issuance but are subject to change without prior notice. We guarantee our product to conform to the specifications contained herein. WE MAKE NO OTHER WARRANTY OR GUARANTEE OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE. Liability, if any, is limited to replacement of the product or refund of the purchase price. LABOR OR COST OF LABOR AND OTHER CONSEQUENTIAL DAMAGES ARE HEREBY EXCLUDED.

MATERIAL SAFETY DATA SHEET

prepared 08/04/04

HAZARDS IDENTIFICATION (ANSI Section 3)

Primary route(s) of exposure : Inhalation, skin contact, eye contact, ingestion.

Effects of overexposure :

Inhalation : Irritation of respiratory tract. Prolonged inhalation may lead to mucous membrane irritation, fatigue, drowsiness, dizziness and/or lightheadedness, headache, uncoordination, nausea, vomiting, chest pain, blurred vision, flu-like symptoms, coughing, difficulty with speech, central nervous system depression, anesthetic effect or narcosis, difficulty of breathing, allergic response, tremors, severe lung irritation or damage, liver damage, kidney damage, pneumoconiosis, loss of consciousness, respiratory failure, asphyxiation, death. Possible sensitization to respiratory tract.

Skin contact : Irritation of skin. Prolonged or repeated contact can cause dermatitis, defatting, blistering, severe skin irritation, severe skin irritation or burns. Possible sensitization to skin. Skin contact may result in dermal absorption of component(s) of this product which may cause drowsiness, dizziness and/or lightheadedness.

Eye contact : Irritation of eyes. Prolonged or repeated contact can cause conjunctivitis, blurred vision, tearing of eyes, redness of eyes, severe eye irritation, severe eye irritation or burns, corneal injury.

Ingestion : Ingestion may cause lung inflammation and damage due to aspiration of material into lungs, mouth and throat irritation, drowsiness, headache, nausea, vomiting, diarrhea, gastro-intestinal disturbances, abdominal pain, central nervous system depression, burns of the mouth, throat, stomach, severe irritation of the mouth, throat, stomach, liver damage, kidney damage, pulmonary edema, loss of consciousness.

Medical conditions aggravated by exposure : Eye, skin, respiratory disorders, asthma-like conditions, kidney disorders, liver disorders.

FIRST-AID MEASURES (ANSI Section 4)

Inhalation : Remove to fresh air. Restore and support continued breathing. Get emergency medical attention. Have trained person give oxygen if necessary. Get medical help for any breathing difficulty. Remove to fresh air if inhalation causes eye watering, headaches, dizziness, or other discomfort. Get medical attention if discomfort or irritation persists.

Skin contact : Wash thoroughly with soap and water. If any product remains, gently rub petroleum jelly, vegetable or mineral/baby oil onto skin. Repeated applications may be needed. Remove contaminated clothing. Wash contaminated clothing before re-use. If irritation occurs, consult a physician.

Eye contact : Flush immediately with large amounts of water, especially under lids for at least 15 minutes. If irritation or other effects persist, obtain medical treatment.

Ingestion : If swallowed, obtain medical treatment immediately.

FIRE-FIGHTING MEASURES (ANSI Section 5)

Fire extinguishing media : Dry chemical or foam water fog. Carbon dioxide. Closed containers may explode when exposed to extreme heat or fire. Vapors may ignite explosively at ambient temperatures. Vapors are heavier than air and may travel long distances to a source of ignition and flash back. Vapors can form explosive mixtures in air at elevated temperatures. Dust explosion hazard. May decompose under fire conditions emitting irritant and/or toxic gases.

Fire fighting procedures : Water may be used to cool and protect exposed containers. Firefighters should use full protective clothing, eye protection, and self-contained breathing apparatus. Self-contained breathing apparatus recommended.

Hazardous decomposition or combustion products : Carbon monoxide, carbon dioxide, oxides of nitrogen, oxides of sulfur, hydrogen cyanide, toxic gases, isocyanate, barium compounds. Acrylic monomers

ACCIDENTAL RELEASE MEASURES (ANSI Section 6)

Steps to be taken in case material is released or spilled : Comply with all applicable health and environmental regulations. Eliminate all sources of ignition. Ventilate area. Ventilate area with explosion-proof equipment. Spills may be collected with absorbent materials. Use non-sparking tools. Evacuate all unnecessary personnel. Place collected material in proper container. Complete personal protective equipment must be used during cleanup. Vacuum with grounded equipment. Large spills - shut off leak if safe to do so. Dike and contain spill. Pump to storage or salvage vessels. Use absorbent to pick up excess residue. Keep salvageable material and rinse water out of sewers and water courses. Small spills - use absorbent to pick up residue and dispose of properly.

HANDLING AND STORAGE (ANSI Section 7)

Handling and storage : Store below 80f. Keep away from heat, sparks and open flame.

Other precautions : Use only with adequate ventilation. Do not take internally. Keep out of reach of children. Avoid contact with skin and eyes, and breathing of vapors. Wash hands thoroughly after handling, especially before eating or smoking. Keep containers tightly closed and upright when not in use. Avoid conditions which result in formation of inhalable particles such as spraying or abrading (sanding) painted surfaces. If such conditions cannot be avoided, use appropriate respiratory protection as directed under exposure controls/personal protection. Empty containers may contain hazardous residues. Ground equipment when transferring to prevent accumulation of static charge.

EXPOSURE CONTROLS/PERSONAL PROTECTION (ANSI Section 8)

Respiratory protection : Respiratory protection is required for use in isocyanate containing environments. Consider type of application and environmental concentrations when selecting respiratory protection. Observe governmental regulations for respirator use. (29 CFR 1910.134(OSHA))(Canadian z94.4) The use of positive pressure supplied air respirator is mandatory when the airborne isocyanate concentrations are not known. Note: isocyanate based materials have been determined to cause allergic sensitization in humans. Avoid inhalation and dermal (skin) contact with the uncured material.

Ventilation : Provide dilution ventilation or local exhaust to prevent build-up of vapors. Use explosion-proof equipment. Use non-sparking equipment.

Personal protective equipment : Eye wash, safety shower, safety glasses or goggles. Impervious gloves, impervious clothing, apron.

STABILITY AND REACTIVITY (ANSI Section 10)

Under normal conditions : Stable see section 5 fire fighting measures

Materials to avoid : Oxidizers, acids, reducing agents, bases, halogens, amines, water, peroxides, nitric acid, alcohols, metal compounds, surface active materials. Nitrates.

Conditions to avoid : Elevated temperatures, moisture, contact with oxidizing agent, sparks, open flame, ignition sources.

Hazardous polymerization : Will not occur

TOXICOLOGICAL INFORMATION (ANSI Section 11)

Supplemental health information : Contains a chemical that may be absorbed through skin. Free diisocyanate may cause allergic reaction in susceptible persons. Notice - reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Other effects of overexposure may include toxicity to liver, kidney, lungs, central nervous system, blood.

The information contained herein is based on data available at the time of preparation of this data sheet which ICI Paints believes to be reliable. However, no warranty is expressed or implied regarding the accuracy of this data. ICI Paints shall not be responsible for the use of this information, or of any product, method or apparatus mentioned and you must make your own determination of its suitability and completeness for your own use, for the protection of the environment, and the health and safety of your employees and the users of this material.
Complies with OSHA hazard communication standard 29CFR1910.1200.

ICI Paints North America
925 Euclid Avenue Cleveland, Ohio 44115
EMERGENCY TELEPHONE NO. (800) 545-2643

Carcinogenicity : The international agency for research on cancer (IARC) has classified carbon black as possibly carcinogenic to humans (group 2b) based on sufficient evidence in animals and inadequate evidence in humans. The international agency for research on cancer (IARC) has evaluated ethylbenzene and classified it as a possible human carcinogen (group 2b) based on sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans. In a 2 year inhalation study conducted by the national toxicology program (NTP), ethylbenzene vapor at 750 ppm produced kidney and testicular tumors in rats and lung and liver tumors in mice. Genetic toxicity studies showed no genotoxic effects. The relevance of these results to humans is not known.

Reproductive effects : High exposures to xylene in some animal studies, often at maternally toxic levels, have affected embryo/fetal development. The significance of this finding to humans is not known.

Mutagenicity : No mutagenic effects are anticipated

Teratogenicity : No teratogenic effects are anticipated

ECOLOGICAL INFORMATION (ANSI Section 12)

No ecological testing has been done by ICI paints on this product as a whole.

DISPOSAL CONSIDERATIONS (ANSI Section 13)

Waste disposal : Dispose in accordance with all applicable regulations. Avoid discharge to natural waters.

REGULATORY INFORMATION (ANSI Section 15)

As of the date of this MSDS, all of the components in this product are listed (or are otherwise exempt from listing) on the TSCA inventory. This product has been classified in accordance with the hazard criteria of the CPR (controlled products regulations) and the MSDS contains all the information required by the CPR.

Physical Data (ANSI Sections 1, 9, and 14)

Product Code	Description	Wt. / Gal.	VOC gr. / ltr.	% Volatile by Volume	Flash Point	Boiling Range	HMIS	DOT, proper shipping name
359B2635	devthane 359 dtm high build gloss aliphatic urethane, flowserve gray	11.20	431.90	47.81	80 f	212-289	*330	paint, 3, UN1263, PGIII
359B3501	devthane 359 dtm high build gloss aliphatic urethane mastic - white base	11.70	410.20	45.03	80 f	147-295	230	paint, 3, UN1263, PGIII
359B3601	devthane 359 dtm high build gloss aliphatic urethane mastic - special white base	12.96	421.83	45.94	80 f	212-295	230	paint, 3, UN1263, PGIII
359B7460	devthane 359 dtm uva high build gloss aliphatic urethane mastic - architectural brn	12.68	371.26	41.05	80 f	147-263	*330	paint, 3, UN1263, PGIII
359B8912	devthane 359 dtm high build gloss aliphatic urethan - yellow	9.45	408.77	45.08	80 f	212-415	230	paint, 3, UN1263, PGIII
359B9400	devthane 359 dtm high build gloss aliphatic urethane, safety yellow	10.21	448.07	49.58	80 f	212-415	330	paint, 3, UN1263, PGIII
359B9500	devthane 359 dtm high build gloss aliphatic urethane mastic - white tint base	10.91	404.33	44.65	80 f	147-263	230	paint, 3, UN1263, PGIII
359B9501	devthane 359 dtm high build gloss aliphatic urethane mastic - deep tint base	10.95	401.82	44.34	80 f	212-263	230	paint, 3, UN1263, PGIII
359B9502	devthane 359 dtm high build gloss aliphatic urethane mastic - neutral tint base	10.98	411.16	45.45	80 f	147-263	230	paint, 3, UN1263, PGIII
359C0910	devthane 359 high build gloss alphatic urethane - converter	8.85	265.67	29.30	80 f	n/d	*331	resin solution,3,UN1866,PGIII

Ingredients Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	359B2635	359B3501	359B3601	359B7460	359B8912	359B9400	359B9500	359B9501	359B9502	359C0910
benzene, ethyl-	ethylbenzene	100-41-4		.1-1.0		.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0	.1-1.0	
2-propanol, 1-methoxy-, acetate	propylene glycol monomethyl ether	108-65-6		1-5	5-10							
ethane, 1,1',1"-methylidenetris(oxy)-tris-	ethyl orthoformate	122-51-0			1-5							
acetic acid, butyl ester	butyl acetate	123-86-4	30-40	20-30	10-20	20-30	30-40	30-40	20-30	20-30	20-30	10-20
benzene, dimethyl-	xylene	1330-20-7	.1-1.0	.1-1.0	1-5	.1-1.0	1-5	1-5	.1-1.0	.1-1.0	.1-1.0	10-20
iron oxide	iron oxide	1332-37-2				1-5						
carbon black	carbon black	1333-86-4	.1-1.0			1-5						
titanium oxide	titanium dioxide	13463-67-7	10-20	20-30	20-30	1-5	1-5	1-5	10-20	5-10		
butanamide, 2-((4-chloro-2-nitrophenyl)azo)-n-(2-methoxyphenyl)-3-oxo-	c.i. pigment yellow 73	13515-40-7					5-10					
hexane, 1,6-diisocyanato-, homopolymer	aliphatic polyisocyanate	28182-81-2										70-80
c.i. pigment yellow 42	yellow iron oxide	51274-00-1	1-5			1-5						
butanamide, 2-((2-methoxy-4-nitrophenyl)azo) -n-(2-methoxyphenyl)-3-oxo-	pigment yellow 74	6358-31-2						1-5				
ethanol	ethyl alcohol	64-17-5		.1-1.0		.1-1.0			.1-1.0	.1-1.0	.1-1.0	
butanamide, 2-((4-methoxy-2-nitrophenyl)azo))- n-(2-methoxyphenyl)-3-oxo-	yellow pigment	6528-34-3					1-5					
rosin, polymerized	rosin, polymerized	65997-05-9						.1-1.0				
sulfuric acid, barium salt	barium sulfate	7727-43-7	10-20	10-20	20-30	30-40	5-10	10-20	10-20	20-30	30-40	

Ingredients (Continued)

Product Codes with % by Weight (ANSI Section 2)

Chemical Name	Common Name	CAS. No.	359B2635	359B3501	359B3601	359B7460	359B8912	359B9400	359B9500	359B9501	359B9502	359C0910
hexane, 1,6-diisocyanato-	hexamethylene diisocyanate	822-06-0										1-5
benzene,1,2,4-trimethyl-	pseudocumene	95-63-6		.1-1.0		.1-1.0			.1-1.0	.1-1.0	.1-1.0	
polysiloxane defoamer	polysiloxane defoamer	Sup. Conf.	1-5				1-5					
acrylic resin	acrylic resin	Sup. Conf.	20-30	30-40	20-30	20-30	30-40	30-40	30-40	30-40	30-40	
vegetable oil derivative	anti-settling additive	Sup. Conf.			1-5							
trade secret	trade secret	Sup. Conf.				1-5						

Chemical Hazard Data

(ANSI Sections 2, 8, 11, and 15)

		ACGIH-TLV				OSHA-PEL				S.R. Std.	S2	S3	CC	H	M	N	I	O
Common Name	CAS. No.	8-Hour TWA	STEL	C	S	8-Hour TWA	STEL	C	S									
ethylbenzene	100-41-4	100 ppm	125 ppm	not est.	not est.	100 ppm	not est.	not est.	not est.	not est.	n	y	y	y	n	n	y	n
propylene glycol monomethyl ether	108-65-6	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
ethyl orthoformate	122-51-0	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
butyl acetate	123-86-4	150 ppm	200 ppm	not est.	not est.	150 ppm	not est.	not est.	not est.	not est.	n	n	y	n	n	n	n	n
xylene	1330-20-7	100 ppm	150 ppm	not est.	not est.	100 ppm	not est.	not est.	not est.	not est.	n	y	y	y	n	n	n	n
iron oxide	1332-37-2	5 mg/m3	not est.	not est.	not est.	10 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
carbon black	1333-86-4	3.5 mg/m3	not est.	not est.	not est.	3.5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	y	n
titanium dioxide	13463-67-7	10 mg/m3	not est.	not est.	not est.	10 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
c.i. pigment yellow 73	13515-40-7	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
aliphatic polyisocyanate	28182-81-2	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
yellow iron oxide	51274-00-1	5 mg/m3	not est.	not est.	not est.	10 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
pigment yellow 74	6358-31-2	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
yellow pigment	6528-34-3	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
rosin, polymerized	65997-05-9	5 mg/m3	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
barium sulfate	7727-43-7	10 mg/m3	not est.	not est.	not est.	5 mg/m3	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
hexamethylene diisocyanate	822-06-0	0.005 ppm	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	y	y	y	n	n	n	n
polysiloxane defoamer	Sup. Conf.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
anti-settling additive	Sup. Conf.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n
trade secret	Sup. Conf.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	not est.	n	n	n	n	n	n	n	n

Footnotes:

C=Ceiling - Concentration that should not be exceeded, even instantaneously.

S=Skin - Additional exposure, over and above airborn exposure, may result from skin absorption.

n/a=not applicable
not est=not established
CC=CERCLA Chemical

ppm=parts per million
mg/m3=milligrams per cubic meter
Sup Conf=Supplier Confidential

S2=Sara Section 302 EHS
S3=Sara Section 313 Chemical
S.R.Std.=Supplier Recommended Standard

H=Hazardous Air Pollutant, M=Marine Pollutant
P=Pollutant, S=Severe Pollutant
Carcinogenicity Listed By:
N=NTP, I=IARC, O=OSHA, y=yes, n=no

AMERON
INTERNATIONAL
Performance Coatings & Finishes

PSX® 1001

Single pack acrylic polysiloxane

Product Data/ Application Instructions

- Single component
- Non-isocyanate
- High-gloss topcoat
- Excellent gloss retention
- Unlimited recoat window
- High solids, low VOC
- Ease of application, brush, roll and spray

Typical Uses

PSX 1001 provides a polyurethane-like finish, in one component, without the isocyanate, as well as better weathering than a standard aliphatic polyurethane.

Used with Amercoat 1000 primer to give a high performance maintenance system with the ease of single pack application.

PSX 1001 is compatible with epoxy, alkyds and other types of primers, **it should not be used with Amercoat 385**.

Application Equipment

The following is a guide; suitable equipment from other manufacturers may be used. Changes in pressure, hose and tip size may be needed for proper spray characteristics.

Conventional spray – Industrial equipment, such as DeVilbiss, MBC or JGA spray gun. Separate regulators for air and fluid pressure, mechanical pot agitator and a moisture and oil trap in the main air supply line are recommended.

Airless spray – Standard equipment such as Graco, DeVilbiss, Nordson, Spee-Flo or others having 28:1 or higher pump ratio and fluid tip with a 0.013- to 0.017-inch orifice.

Brush – Natural bristle. Maintain a wet edge.

Roller – Industrial roller. Level any air bubbles with bristle brush.

Surface Preparation

Prior to coating, all surfaces must be undamaged, clean, dry and free of all contaminants, including salt deposits.

See specific primer.

Application Procedure

1. Flush all equipment with Amercoat 911 or Amercoat 12 before use.
2. Mix to a uniform consistency.
3. If needed for workability, thin with Amercoat 911 up to ½ pint per gallon.
4. Apply a wet coat in even, parallel passes, overlap each pass 50 percent to avoid holidays, bare areas and pinholes. If required, follow with a cross spray at right angles to first pass.
5. Clean all equipment with Amercoat 911 or Amercoat 12 immediately after use.

Physical Data

Finish	Gloss
Color	See Ameron standard Industrial and Marine color charts

Yellow, red and orange colors will fade faster than other colors due to the replacement of lead-based pigments with lead-free pigments in these colors.

Components	1
Curing mechanism	Chemical reaction, solvent evaporation
Volume solids (calculated)	55 ± 3%
Dry film thickness per coat	2 to 3 (50 to 75 microns)
Coats	1 or 2

Uniform appearance may require two coats over contrasting primer colors.

Theoretical coverage	ft^2/gal	m^2/L
1 mil (25 microns)	882	21.7
2 mils (50 microns)	441	10.8
	lb/gal	g/L
VOC	3.2	384

Flash point (SETA)	°F	°C
PSX 1001	66	19
Amercoat 911	81	27
Amercoat 12	2	-17

Application Data

Applied over	Primed steel: Amercoat 180, 230, 235, 235ER, 370, 1000, or Amerlock® 400.
Surface preparation	See specific primer.
Method	Airless or conventional spray
Environmental conditions	

Temperature	°F	°C
air	40 to 110	4 to 43
surface	40 to 120	4 to 43

Relative humidity	20% to 90%

Surface temperatures must be at least 5°F (3°C) above dew point to prevent condensation.

Drying time (hours)	°F/°C			
	120/49	90/32	70/21	50/10
touch	½	1	2	3
through	3	8	12	24
Topcoat				
minimum (hours)				
Amercoat 180	1	2	2 ½	4
Amercoat 370	¼	½	1	3
Amercoat 1000	1	2	2	4
Amerlock 400	3	7	14	28
Topcoat				
maximum (days)				
Amercoat 180			None	
Amercoat 370	--	--	30	--
Amercoat 1000			None	
Amerlock 400	--	--	30	--
Recoat				
minimum (hours)	½	2	4	12
maximum (hours)	None	None	None	None

Thinner	Amercoat 911
Equipment cleaner	Amercoat 911 or Amercoat 12

Formerly Amercoat 3448

Temperature Resistance (Dry)	°F/°C	
continuous	200	93
intermittent	250	121

See temperature limits for primer or coating used as first coat.

Safety Precautions

Read material safety data sheet before use. Safety precautions must be strictly followed during storage, handling and use.

CAUTION – Improper use and handling of this product can be hazardous to health.

Do not use this product without first taking all appropriate safety measures to prevent property damage and injuries. These measures may include, without limitation: implementation of proper ventilation, use of proper lamps, wearing of proper protective clothing and masks, tenting and proper separation of application areas. Consult your supervisor. Proper ventilation and protective measures must be provided during application and drying to keep spray mist concentrations within safe limits and to protect against toxic hazards. Necessary safety equipment must be used and ventilation requirements carefully observed, especially in confined or enclosed spaces, such as tank interior and buildings.

This product is to be used by those knowledgeable about proper application methods. Ameron makes no recommendation about the types of safety measures that may need to be adopted because these depend on application environment and space, of which Ameron is unaware and over which it has no control.

If you do not fully understand these warnings and instructions or if you cannot strictly comply with them, do not use the product.

Note: Consult Code of Federal Regulations Title 29, Labor, parts 1910 and 1915 concerning occupational safety and health standards and regulations, as well as any other applicable federal, state and local regulations on safe practices in coating operations.

This product is for industrial use only. Not for residential use in California.

Shipping Data

Packaging	1 gal	5 gal
Shipping weight (approx)	lb	kg
1-gal can	12.6	5.7
5-gal can	62	28.2

Shelf life when stored indoors at 40 to 100°F (4 to 38°C) 1 years from date of manufacture.

Numerical values are subject to normal manufacturing tolerances, color and testing variances. Allow for application losses and surface irregularities. See application instructions for complete information and safety precautions.The product is photochemically reactive as defined by the South Coast Air Quality Management District's Rule 102 or equivalent regulations.

Warranty

Ameron warrants its products to be free from defects in material and workmanship. Ameron's sole obligation and Buyer's exclusive remedy in connection with the products shall be limited, at Ameron's option, to either replacement of products not conforming to this Warranty or credit to Buyer's account in the invoiced amount of the nonconforming products. Any claim under this Warranty must be made by Buyer to Ameron in writing within five (5) days of Buyer's discovery of the claimed defect, but in no event later than the expiration of the applicable shelf life, or one year from the delivery date, whichever is earlier. Buyer's failure to notify Ameron of such nonconformance as required herein shall bar Buyer from recovery under this Warranty.

Ameron makes no other warranties concerning the product. No other warranties, whether express, implied, or statutory, such as warranties of merchantability or fitness for a particular purpose, shall apply. In no event shall Ameron be liable for consequential or incidental damages.

Any recommendation or suggestion relating to the use of the products made by Ameron, whether in its technical literature, or in response to specific inquiry, or otherwise, is based on data believed to be reliable; however, the products and information are intended for use by Buyers having requisite skill and know-how in the industry, and therefore it is for Buyer to satisfy itself of the suitability of the products for its own particular use and it shall be deemed that Buyer has done so, at its sole discretion and risk. Variation in environment, changes in procedures of use, or extrapolation of data may cause unsatisfactory results.

Limitation of Liability

Ameron's liability on any claim of any kind, including claims based upon Ameron's negligence or strict liability, for any loss or damage arising out of, connected with, or resulting from the use of the products, shall in no case exceed the purchase price allocable to the products or part thereof which give rise to the claim. **In no event shall Ameron be liable for consequential or incidental damages.**

AMERON INTERNATIONAL

Ameron U.S.A. • 13010 Morris Rd, Suite 400, Alpharetta, GA 30004 • (678) 393-0653
Ameron B.V. • J. F. Kennedylaan 7, 4191 MZ Geldermalsen, The Netherlands • (31) 345-587-587

©1999 Ameron • Printed in U.S.A. • R12/99 supersedes R10/98

AMERON
Coatings

M. S. D. S.
Material Safety Data Sheet

1001S20130

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : PSX 1001 PEARL GRAY
IDENTIFICATION NUMBER: 1001S20130
PRODUCT CLASS : ACRYLIC MODIFIED POLYSILOXANE PATENT NO. 5,275,645
HEALTH : WARNING HMIS/NFPA : H2F3R0

Ameron International
Protective Coatings Group
201 North Berry St.
Brea, CA 92821

EMERGENCY:800-424-9300 (ChemTrec)
24 Hours Emergency Hotline

INFORMATION: William B. Dances, PHONE: 714-529-1951 PREPARE DATE: 06/06/02
PREVIOUS REVISION DATE: 05/14/02

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

ITEM	CHEMICAL NAME	CAS NUMBER	WT/WT % LESS THAN
01	+ TITANIUM DIOXIDE (As TiO2 trace contaminants 2.5% aluminum hydroxide 3% amorphous silica)	13463-67-7	20.0 %
02	XYLENE (STEL 150ppm; Ceiling 300ppm; trace contaminant benzene**# @<10ppm, toluene#<1%)	1330-20-7	13.60 %

(HAPS, SARA, CERCLA)

03 PROPRIETARY PROPRIETARY 15.0 %
(Methanol, hydrolysis generated, 250 ppm ceiling)
04 Acrylic resin Mixture 15.0 %
05 ALUMINO SILICATE 37244-96-5 15.0 %

06 Acrylic resin Mixture 10.0 %
07 HIGH FLASH NAPHTHA 64742-95-6 5.10 %
(Mfg TLV 50ppm; trace contaminant benzene**#<1ppm SARA, toluene#<0.1%SARA)

08 1,2,4-Trimethyl benzene 95-63-6 3.80 %

(SARA)

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

ITEM	CHEMICAL NAME	CAS NUMBER	WT/WT % LESS THAN
09	ETHYL BENZENE ACGIH: A3 IARC: 2B (STEL 125ppm)	100-41-4	3.20 %

(HAPS, SARA, CERCLA)
10 PROPRIETARY PROPRIETARY 5.0 %
(Methanol [SARA] @ 3%; additional may be produced upon hydrolysis)

(CERCLA)
11 PROPRIETARY PROPRIETARY 5.0 %
(Trace contaminant toluene# @<10ppm, ethanol 0.5%)

12 PROPRIETARY PROPRIETARY 5.0 %
(Trace contaminant toluene# <0.5% HAPS)

	EXPOSURE LIMITS					
	ACGIH		OSHA		VP	TOXICITY
	TLV-TWA	TLV-TWA	PEL-TWA	PEL-TWA	mmHg	LD50 LC50

ITEM	ppm	Mg/M3	ppm	Mg/M3	@68F	g/kg	ppm
01	dna	5.0	dna	5.0	N.A.	10.000	6820.000
02	100	434	100	435	6.6	3.900	6700.000
03	dna	dna	dna	dna	N.A.	dna	dna
04	dna	dna	dna	dna	N.A.	dna	dna
05	dna	3.0	dna	5.0	N.A.	dna	dna
06	dna	dna	dna	dna	6.4	dna	dna
07	dna	dna	100	dna	2.7	3.100	3670.000
08	25.0000	125.00	25.000	125.000	1.0	dna	dna
09	100	434	100	435	7.1	dna	dna
10	dna	dna	dna	dna	N.A.	dna	dna
11	dna	dna	dna	dna	N.A.	1.700	dna
12	dna	10.0	dna	5.0	N.A.	dna	dna

REGULATORY: + Pigment content is dependent on color. **CALIF.TITLE 26:22-12000 (PROP 65). WARNING: This product contains a chemical known to the State of California to cause cancer. #CALIF.TITLE 26:22-12000 (PROP 65). WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. All ingredients are on TSCA inventory or are exempt. Toxic chemicals marked (SARA, CERCLA, HAPs) are subject to reporting requirements of SARA (40CFR 355 and 372), CERCLA (40CFR 302), or

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

HAPs (40CFR 63).

(S)=Skin; LD50=Dermal.rabbit; LC50=Inhalation,rat; dna=data not available; na=not applicable

SECTION 3 - HAZARDS IDENTIFICATION

EXPOSURE EFFECTS: Vapor or spray mist or spattered material can be harmful. Irritating to eyes, skin, and if inhaled; to nose and throat. Excessive or prolonged inhalation can cause headache, nausea or dizziness. Repeated and prolonged occupational overexposure to solvents is associated with permanent brain and nervous system damage. Intentional abuse, misuse or other massive exposure to solvents may cause multiple organ damage and/or death.

OVER-EXPOSURE (prolonged or repeated use): CAN AGGRAVATE OR ACCENTUATE ANY
OF THESE EFFECTS.

SKIN: Irritant. Burns. Can be absorbed through skin. Can cause

defatting and drying of skin.

INHALATION: Irritant. Lung injury. Central nervous system damage. Chemical pneumonia. Xylene or toluene may cause irregular heart beat.

EYES: Severe irritant. Corneal injury. Irreversible burns and damage. Methanol, if swallowed, can cause eye damage and blindness. DO NOT wear contact lenses when using this material.

INGESTION: Can be fatal if swallowed. Aspiration into lungs can damage lungs and cause chemical pneumonia. Can cause burns.

TARGET ORGANS: Kidneys. Liver. Lungs. Heart. Skin. Eyes. Stomach. Central nervous system. Fetal defects.

MEDICAL CONDITIONS AGGRAVATED: Kidneys. Liver. Skin. Eyes. Respiratory. Lungs.

PRIMARY ROUTE(S) OF ENTRY: SKIN CONTACT INHALATION INGESTION EYE CONTACT

SECTION 4 - FIRST AID MEASURES

FIRST AID PROCEDURES: INHALATION: Remove to fresh air. Restore normal breathing. Treat symptomatically. See physician. SKIN: Wash thoroughly with soap and water. Remove contaminated clothing.Consult physician if irritation persists. EYES: Flush immediately with plenty of water for at least 15 minutes and get medical attention. INGESTION: Drink 1 or 2 glasses

SECTION 4 - FIRST AID MEASURES

of water to dilute. Never give anything by mouth to an unconscious person. Do not induce vomiting. Consult physician or poison control center IMMEDIATELY. Treat symptomatically.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT: 66 F (SETA) LOWER EXPLOSIVE LIMIT: 1.0 %
UPPER EXPLOSIVE LIMIT: 7.0 %

FLAMMABILITY - OSHA: FLAMMABLE - CLASS IB
DOT: FLAMMABLE

EXTINGUISHING MEDIA: FOAM CO2 DRY CHEMICAL

LOWEST FLASHING SOLVENT: 100-41-4

UNUSUAL FIRE AND EXPLOSION HAZARDS: Closed containers may explode when exposed to extreme heat and pressure buildup. May produce a floating fire hazard. Isolate from electrical equipment, sparks, heat and open flame. Vapors may spread long distances, cause flash fire or ignite explosively.

FIREFIGHTING PROCEDURES: Wear full protective equipment, self-contained breathing apparatus. Water may be used to cool closed containers to prevent pressure build-up or explosion when exposed to extreme heat.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

SPILL, LEAKS: Remove all sources of ignition. Avoid breathing vapors. Ventilate area. Use absorbent, inert cleanup materials. (DO NOT use sawdust.) Remove absorbent material with non-sparking tools. Place in separate container. Keep out of sewers and waterways. If entry is threatened or occurs, notify local authorities.

SECTION 7 - HANDLING AND STORAGE

HANDLING AND STORAGE: Keep container closed, upright when not in use. Store in cool, dry, well-ventilated area. Avoid prolonged storage temperatures above 100F. Use caution when pouring. Avoid breathing sanding dust. Do not weld or flame cut on empty container.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION: Implement administrative and engineering controls to reduce exposure. Provide sufficient ventilation in volume and pattern to keep air contaminant concentrations below the TLV limits. Remove welding or flame cutting decomposition products; follow current,ANSI Z49.1,"Safety in Welding and Cutting". Refer to 29 CFR parts 1910 and 1915, for coating operations; part 1910.146, Confined Spaces.

RESPIRATORY PROTECTION: Wear NIOSH/MSHA certified respirator designed to remove a combination of particulates (dust or spray mist) and vapor. When brushing, rolling or spreading; select the appropriate respiratory protection for the conditions. For specific conditions, refer to current

"NIOSH Pocket Guide to Chemical Hazards". In confined or restricted ventilation areas use air-line respirators or hoods. Refer to 29 CFR, OSHA parts 1910.134 and 1915 for coating operations;part 1910.146 Confined Spaces;ANSI Z88.2,Practices for Respiratory Protection; 42 CFR, part 84 Particulate Respirators.

PROTECTIVE CLOTHING AND EQUIPMENT: Dependent upon application method, wear resistant coveralls, gloves and shoe coverings to prevent skin contact. Wear solvent resistant glasses with splash guards or face shield to protect eyes from splash, spatter and/or spray mist.Consult 29 CFR 1910.132, 133, 136, 138; ANSI Z87.1, Z41. Use explosion and spark-proof equipment.

HYGIENIC PRACTICES: Wash thoroughly after handling and before eating, smoking or using toilet. Launder contaminated clothing before use. Destroy contaminated leather and absorbent shoes, which cannot be decontaminated, to prevent reuse.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

BOILING RANGE : 212 - 336 F VAPOR DENSITY : Is heavier than air
ODOR : SOLVENT WEIGHT PER GAL : 10.6756
APPEARANCE : LIQUID EVAPORATION RATE: Is slower than Butyl
SOLUBILITY IN H2O : NO Acetate
MIXED VOC, G/L : 384 MIXED THINNED VOC, G/L : 413
THINNER : 911 @ 0.5 pints PHOTOCHEMICALLY REACTIVE: Yes
VOLATILE VOLUME % : 41.12

SECTION 10 - STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Heat, open flame, arc or sparks. Water or moisture. High temperatures.

INCOMPATIBILITY: Strong oxidizers, acids and alkalies. Water.

HAZARDOUS DECOMPOSITION PRODUCTS: (BY FIRE, BURNING OR WELDING); CO, CO2.
NOx. Aldehydes. Acrylic monomer fumes. Silicon oxide fumes. Methanol.

SECTION 10 - STABILITY AND REACTIVITY

Toxic gases or fumes. Formaldehyde at temperatures above 300F (150C).

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

SECTION 11 - TOXICOLOGICAL PROPERTIES

TOXICOLOGICAL PROPERTIES: See Section 2.

SECTION 12 - ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No Information.

SECTION 13 - DISPOSAL CONSIDERATIONS

EPA Waste No.: D001

DISPOSAL METHOD: Place in separate, appropriate, closed container in accordance with all applicable local, State, and Federal regulations. This material has NOT been tested by Toxicity Characteristic Leaching Procedure (TCLP).

SECTION 14 - TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: Paint

DOT HAZARD CLASS: 3 HAZARD SUBCLASS: NA

DOT UN/NA NUMBER: 1263 IMO: NA PACKING GROUP : II

SECTION 15 - REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS: AS FOLLOWS -

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)

SECTION 15 - REGULATORY INFORMATION

NEW JERSEY RIGHT-TO-KNOW:
The following materials are non-hazardous, but are among the top five components in this product:

---------- CHEMICAL NAME ---------- CAS NUMBER
No non-hazardous materials are among the top five ingredients.

PENNSYLVANIA RIGHT-TO-KNOW:
The following non-hazardous ingredients are present in the product at greater than 3%:

---------- CHEMICAL NAME ---------- CAS NUMBER
No non-hazardous ingredients are present at greater than 3%.

INTERNATIONAL REGULATIONS: AS FOLLOWS -

CANADIAN WHMIS: This MSDS has been prepared in compliance with Controlled Product Regulations except for use of the 16 headings.

CANADIAN WHMIS CLASS: No information available.

SECTION 16 - OTHER INFORMATION

NOTICE: Removal of old lead paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For additional information, contact the USEPA/Lead Information Hotline at 1-800-424-LEAD.

product data

carboline®

Carboxane 2000

Selection & Specification Data

Generic Type	Modified Siloxane Hybrid
Description	Carboxane 2000 is a premium, ultra-durable coating that provides outstanding gloss and color retention for exterior exposures. Carboxane 2000 combines the chemical resistant properties of epoxies with the weathering characteristics of acrylic-polyurethanes. This tightly cross-linked film results in a finish with outstanding barrier properties and weathering performance that far exceeds polyurethanes.
Features	▪ Exceptional weatherability ▪ Long life performance ▪ Outstanding gloss/color retention ▪ VOC compliant ▪ Excellent abrasion resistance ▪ Isocyanate free ▪ Flexible Film
Color	Refer to Carboline Color Guide
Finish	Gloss
Primers	Compatible with inorganic and organic zinc rich primers, epoxies and others as recommended by Carboline Technical Service
Dry Film Thickness	3 - 7 mils (75 -175 microns) depending on application.
Solids Content	By Volume: 75%
Theoretical Coverage Rates	1203 mil ft² (30 m²/l at 25 microns) Allow for loss in mixing and application
VOC Values (calculated)	As supplied: 1.8 lbs/gal (216 g/l) mixed Thinned: 13 oz/gal w/ #10 2.29 lbs/gal (275 g/l) These are nominal values and may vary with color.
Dry Temp. Resistance	Continuous: 200°F (93°C) Non-Continuous: 250°F (121°C)

Substrates & Surface Preparation

General	Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other contaminants that could interfere with adhesion of the coating. Refer to specific primer's Product Data Sheet for detailed requirements of the specified primer.
Steel	SSPC-SP6 with a 1.5-2.5 mil (37.5-62.5 micron) surface profile for maximum protection. SSPC-SP2 or SP3 as minimum requirement. Prime with recommended primer.
Galvanized Steel or Aluminum	SSPC-SP1 and prime with specific Carboline primers as recommended by your Carboline sales representative.

December 2002 replaces November 2002

2000

To the best of our knowledge the Technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. User must contact Carboline Company to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. We guarantee our products to conform to Carboline quality control. We assume no responsibility for coverage, performance or injuries resulting from use. Liability, if any, is limited to replacement of products. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY CARBOLINE, EXPRESS OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Carboline® and Carboxane® are registered trademarks of Carboline Company.

Carboxane 2000

Application Equipment

Listed below are the general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.
General Guidelines:

Spray Application This is a high solids coating and may require adjustments in spray techniques. Wet film thickness is easily and quickly achieved. The following spray equipment has been found suitable and is available from manufacturers such as Binks, Devibiss and Graco.

Airless Spray Application

Pump Ratio:	30:1 (min.)	
Volume Output:	2.5 gpm min.	11.5 l/min min.
Material Hose:	½" I.D. min.	12.5mm min.
Tip Size:	0.017-0.021"	0.43-0.53mm
Output Pressure:	1500-2000 psi	105-140kg/cm²

Brush & Roller Multiple coats may be required to obtain desired appearance, recommended dry film thickness and adequate hiding. Avoid excessive re-brushing or re-rolling.

Brush Use a medium natural bristle brush.

Roller Use a short to medium-nap mohair roller cover with phenolic core.

Mixing & Thinning

Mixing Power mix Part A separately. Part B requires no mixing. Then combine power mix.
DO NOT MIX PARTIAL KITS.

Ratio 2.2:1 Part A: Part B by volume.

Thinning Not normally required. May be thinned up to 10% (13 oz/gal) with Thinner #10.

Pot Life 8 hours at 75°F (23°C) and less at higher temperatures.

Material is moisture sensitive. If left uncovered for extended periods or under very high humidity conditions, check for and remove any skinning that may occur.

Cleanup & Safety

Cleanup Use Thinner #2 or Acetone. In case of spillage, absorb and dispose of in accordance with local applicable regulations.

Safety Read and follow all caution statements on this product data sheet and on the MSDS for this product. Employ normal workmanlike safety precautions. Hypersensitive persons should wear protective clothing, gloves and use protective cream on face, hands and all exposed areas.

Cleanup & Safety (Cont.)

Ventilation When used in enclosed areas, thorough air circulation must be used during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. User should test and monitor exposure levels to insure all personnel are below guidelines. If not sure or if not able to monitor levels, use MSHA/NIOSH approved supplied air respirator.

Application Conditions

Condition	Material	Substrate	Ambient	Humidity
Optimum	60°F – 80°F (16°C –27°C)	50°F-86°F (10°C-30°C)	50°F-86°F (10°C-30°C)	40-85%
Minimum	50°F (10°C)	35°F (4°C)	35°F (4°C)	20%
Maximum	90°F (32°C)	110°F (43°C)	110°F (43°C)	90%

Industry standards are for substrate temperatures to be 5°F (3°C) above the dew point. Protect from high humidity, dew and direct moisture contact until fully cured. Application and/or curing in humidities above maximum, or exposure to moisture from rain or dew may result in a loss of gloss and/or staining of the product.

Curing Schedule

Temperature @ 50% RH	Touch Dry	Time to Recoat (minimum)	Hard Cure*
35°F (2°C)	8 hours	24 hours	30 hours
60°F (14°C)	2.5 hours	12 hours	24 hours
75°F (24°C)	2 hours	6 hours	18 hours

These times are based on recommended coverage rates. Curing under low humidity conditions will extend times.
*Fingernail hard

Packaging, Handling & Storage

Shipping Weight (Approximate) 1 Gallon kit: 13 lbs (6 kg); 5 Gallon Kit: 67 lbs (30 kg)

Flash Point (Setaflash)

Part A:	96°F (36°C)
Part B:	75°F (24°C)
Thinner 10:	83°F (28°C)
Thinner 2:	23°F (-5°C)

Storage (General) Store Indoors. **KEEP DRY**

Storage Temperature & Humidity 40 -110°F (4°C-43°C)
0-90% Relative Humidity

Shelf Life

Part A:	12 months at 76°F (24°C)
Part B:	12 months at 76°F (24°C)

***Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.**

carboline®
350 Hanley Industrial Court, St. Louis, MO 63144-1599
314/644-1000 314/644-4617 (fax) www.carboline.com
An RPM Company

December 2002 replaces November 2002

To the best of our knowledge the Technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. User must contact Carboline Company to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. We guarantee our products to conform to Carboline quality control. We assume no responsibility for coverage, performance or injuries resulting from use. Liability, if any, is limited to replacement of products. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY CARBOLINE, EXPRESS OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Carboline® and Carboxane® are registered trademarks of Carboline Company.

SECTION I - PRODUCT: CARBOXANE 2000 PART A (2000A1NL)
Date: 01/09/03 Replaces 11/07/02
(aka ACF PF 2000 EPOXY PRIMER PT A)
CHEMTREC TRANSPORTATION EMERGENCY PHONE NO.: 800-424-9300
PITTSBURGH POISON CONTROL CENTER HEALTH EMERGENCY NO.: 412-681-6669

SECTION II - HAZARDOUS INGREDIENTS EXPOSURE LIMITS

CHEMICAL NAME	(A)	(B)	(C)	(D)	(E)
COLOR PIGMENT	MIXTURE	40%	3.5MG/M3	NE	NE
PROPRIETARY	PROPRIETARY	5%	.1 MG/M3	NE	NE
METHYL N-AMYL KETONE	110-43-0	5%	50 PPM	100 PPM	NE

CHEMICAL NAME	HAZARDOUS INGREDIENTS (F)	ADDITIONAL DATA (G)
COLOR PIGMENT	NOT AVAILABLE	NO/YES
PROPRIETARY	NOT AVAILABLE	NO/NO/1,2
METHYL N-AMYL KETONE	1670 MG/KG RAT ORAL 12.6 ML/KG RABBIT DERMAL	NO/NO/3

TABLE (A) CAS NUMBER (B) LESS THAN WT (C) TLV-TWA (D) STEL (E) CEILING (F) TOXICITY DATA (LD50/Route,LC50/Route) (G) SARA 302/SARA 313/ SARA 311-312 CATEGORIES/CERCLA. NE = not established, NR = not required, NO = no. Color Pigment Mixture may contain Iron Oxides, Titanium Dioxide, Carbon Black, and other particulates not otherwise regulated in varying amounts depending on color of product.

WHMIS CLASSIFICATION: B2 -- D2A -- D2B
HMIS/NFPA CLASSIFICATION: HEALTH 1, FLAMMABILITY 3, REACTIVITY 0, PERSONAL PROTECTION CODE G, NFPA FIRE FIGHTING PHASE 4

SECTION III - PHYSICAL DATA:

BOILING RANGE: 300F(148C)-300F(148C). VAPOR DENSITY: Heavier than air. EVAPORATION RATE: Slower than ether. VOLATILE BY WEIGHT 3 %. VOLATILE BY VOLUME: 6 %. PRODUCT WT/GAL: 12.6 LBS/U.S.GAL. 1.51 sp gr.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

FLAMMABILITY CLASSIFICATION: FLASH POINT: 96 F(35C) (Setaflash) LEL 1.1 % UEL 7.9 %.
OSHA-FLAMMABLE LIQUID/OSHA/CLASS/1C, DOT-PAINT,3,UN1263,PGIII, CANADIAN TDGA: PAINT,3,UN1263,PGIII
EXTINGUISHING MEDIA: Dry Chemical, Foam, Carbon Dioxide, Water Fog.
FIRE AND EXPLOSION HAZARDS: Vapors are heavier than air and will accumulate. Vapors will form explosive concentrations with air. Vapors travel long distances and will flashback. Use mechanical ventilation when necessary to keep percent vapor below the "Lower Explosion Level" (LEL). Eliminate all ignition sources. Keep away from sparks, open flames and heat sources. All electric equipment and installations should be made and grounded in accordance with the National Electrical Code. In areas where explosion hazards exist, workers should be required to use nonferrous tools and to wear

conductive and non-sparking shoes.
SPECIAL FIRE FIGHTING PROCEDURES: Evacuate hazard area of unprotected personnel. Use a NIOSH approved self-contained breathing unit and complete body protection. Cool surrounding containers with water in case of fire exposure.

SECTION V - HEALTH HAZARD DATA:

INHALATION: Harmful if inhaled, may affect the brain or nervous system, causing dizziness, headache or nausea. May cause nose and throat irritation.
CONTACT: Can cause eye burns. Can cause skin burns.
INGESTION: May be fatal if swallowed.
NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.
MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: If you have a condition that could be aggravated by exposure to dust or organic vapors see a physician prior to use.
PRIMARY ROUTE(S) OF ENTRY: Inhalation, Dermal, Ingestion.
EMERGENCY FIRST AID PROCEDURES: When exposed always get medical attention.
EYE CONTACT: Flush with water for 15 minutes.
SKIN CONTACT: Wash with soap and water. Remove contaminated clothing and clean before reuse.
INHALATION: Remove to fresh air. Provide oxygen if breathing is difficult. Use artificial respiration if not breathing. Get medical attention.
IF SWALLOWED: DO NOT INDUCE VOMITING!! Always get medical attention.

SECTION VI - REACTIVITY DATA:

STABILITY: This product is stable under normal storage conditions.
HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon Monoxide, Nitrogen Oxides, and unid entified organic compounds. Under the effect of humidity, water, and protic agents, : Methanol can be formed. Consider all smoke and fumes from burning material as very hazardous. Welding, cutting, or abrasive grinding can create smoke and fumes. Do not breathe any fumes or smoke from these operations.
CONDITIONS TO AVOID: Heat, Sparks, Open Flames, and Moisture. Product reacts slowly with water to form methanol.
INCOMPATIBILITY: Reaction with water or other aqueous media, including humidity in the air, will result in the formation of methanol. The OSHA PEL and ACGIH TWA exposure limit for methanol is 200 ppm.

SECTION VII - SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE OF SPILL: Eliminate all ignition sources. Handling equipment must be grounded to prevent sparking. Evacuate the area of unprotected personnel. Wear appropriate personal protection clothing and equipment. Follow safe handling and use guidelines in Section VIII. Contain and soak up residual with an absorbent (clay or sand). Take up absorbent

material and seal tightly for proper disposal. Dispose of in accordance with local, state and federal regulations. Refer to Section II for Sara Title III and CERCLA information.

SECTION VIII - SAFE HANDLING AND USE INFORMATION:

RESPIRATORY PROTECTION: Use only with ventilation to keep levels below exposure guidelines. (Section II). User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use MSHA/NIOSH approved supplied air respirator. Follow all current OSHA requirements for respirator use.
VENTILATION: Use explosion-proof ventilation when required to keep below health exposure guidelines and Lower Explosion Limit (LEL).
SKIN AND EYE PROTECTION: Recommend impervious gloves, clothing and safety glasses with side shields or chemical goggles to avoid skin and eye contact. If material penetrates to skin, change gloves and clothing. Hypersensitive persons should wear gloves or use protective cream.
HYGIENIC PRACTICES: Wash with soap and water before eating, drinking, applying cosmetics, or using toilet facilities. Use of a hand cleaner is recommended. Launder contaminated clothing before reuse. Leather shoes can absorb and pass through hazardous materials. Check shoes carefully after soaking before reuse.
APPLICATION: Use only in accordance with Carboline application instructions, container label and Product Data Sheet.

SECTION IX - SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep away from heat, sparks, open flame, and strong oxidizing agents. Keep containers closed. Store in cool, dry place with adequate ventilation. If pouring or transferring materials, ground all containers and tools.
OTHER PRECAUTIONS: Do not weld, heat, cut or drill on full or empty containers.

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations.

Carboline Company 350 Hanley Ind. Ct. St. Louis, MO 63144
PHONE NO. 314-644-1000 FOR INDUSTRIAL USE ONLY

SPECIFIC STATE REGULATORY INFORMATION

NEW JERSEY
PENNSYLVANIA
Non-Hazardous Materials above 1 Percent:

Name	CAS	Pct
PROPRIETARY	PROPRIETARY	40%
PROPRIETARY	PROPRIETARY	15%
PROPRIETARY	PROPRIETARY	10%
THICKENER	NE	5%

CALIFORNIA

WARNING: This product contains a chemical(s) known to the State of California to cause cancer, and birth defects or other reproductive harm.

SECTION I - PRODUCT: CARBOXANE 2000 PART B (2000B1NL)
Date: 12/18/02 Replaces 11/06/02

CHEMTREC TRANSPORTATION EMERGENCY PHONE NO.: 800-424-9300
PITTSBURGH POISON CONTROL CENTER HEALTH EMERGENCY NO.: 412-681-6669

SECTION II - HAZARDOUS INGREDIENTS EXPOSURE LIMITS

CHEMICAL NAME	(A)	(B)	(C)	(D)	(E)
PROPRIETARY	PROPRIETARY	20%	NE	NE	NE
XYLENE	1330-20-7	20%	100 PPM	150 PPM	NE
PM SOLVENT	107-98-2	5%	100 PPM	150 PPM	NE
ETHYL BENZENE	100-41-4	4%	100 PPM	125 PPM	NE

HAZARDOUS INGREDIENTS	ADDITIONAL DATA	
CHEMICAL NAME	(F)	(G)
PROPRIETARY	NOT AVAILABLE	NO/NO/1,2
XYLENE	4300MG/KG RAT,ORAL 15000 PPM/4HRS RAT,INHALATION	NO/YES/1,2,3/ 1000#/U239
PM SOLVENT	>5180 MG/KG, ORAL, RAT 10000 PPM/4HRS RAT,INHALATION	NO/NO/1,2,3
ETHYL BENZENE	NOT AVAILABLE	NO/YES/1,2,3/ 1000#

TABLE (A) CAS NUMBER (B) LESS THAN WT (C) TLV-TWA (D) STEL (E) CEILING (F) TOXICITY DATA (LD50/Route,LC50/Route) (G) SARA 302/SARA 313/ SARA 311-312 CATEGORIES/CERCLA. NE = not established, NR = not required, NO = no. Color Pigment Mixture may contain Iron Oxides, Titanium Dioxide, Carbon Black, and other particulates not otherwise regulated in varying amounts depending on color of product.

WHMIS CLASSIFICATION: B2 -- D2A -- D2B -- E
HMIS/NFPA CLASSIFICATION: HEALTH 3, FLAMMABILITY 3, REACTIVITY 2, PERSONAL PROTECTION CODE H, NFPA FIRE FIGHTING PHASE 4

SECTION III - PHYSICAL DATA:

BOILING RANGE: 248F(120C)-284F(140C). VAPOR DENSITY: Heavier than air. EVAPORATION RATE: Slower than ether. VOLATILE BY WEIGHT 25 %. VOLATILE BY VOLUME: 28 %. PRODUCT WT/GAL: 8.4 LBS/U.S.GAL. 1.01 sp gr.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

FLAMMABILITY CLASSIFICATION: FLASH POINT: 75 F(23C) (Setaflash) LEL 1.0 % UEL 16.0 %.
OSHA-FLAMMABLE LIQUID,OSHA,CLASS 1C, DOT-FLAMMABLE LIQUID,CORROSIVE,NOS*,3,UN2924,PGIII(8), CANADIAN TDGA: FLAMMABLE LIQUID,CORROSIVE,NOS*,3,UN2924,PGIII(8)
EXTINGUISHING MEDIA: Dry Chemical, Foam, Carbon Dioxide. This material is reactive with water, but the reaction will not significantly increase the fire severity.
FIRE AND EXPLOSION HAZARDS: Vapors are heavier than air and will accumulate.

PRODUCT: CARBOXANE 2000 PART B (2000B1NL)
Date: 12/18/02 Replaces 11/06/02

Vapors will form explosive concentrations with air. Vapors travel long distances and will flashback. Use mechanical ventilation when necessary to keep percent vapor below the "Lower Explosion Level" (LEL). Eliminate all ignition sources. Keep away from sparks, open flame and heat sources. All electric equipment and installations should be made and grounded in accordance with the National Electrical Code. In areas where explosion hazards exist, workers should be required to use nonferrous tools and to wearconductive and non-sparking shoes.
SPECIAL FIRE FIGHTING PROCEDURES: Evacuate hazard area of unprotected personnel. Use a NIOSH approved self-contained breathing unit and complete body protection.

SECTION V - HEALTH HAZARD DATA:

INHALATION: Harmful if inhaled, may affect the brain or nervous system, causing dizziness, headache or nausea. May cause nose and throat irritation. High vapor concentrations may cause a burning sensation in the throat and nose, stinging and watering in the eyes. At concentrations which cause irritation, dizziness, faintness, drowsiness, nausea and vomiting may also occur.
CONTACT: Can cause eye burns. Prolonged or widespread contact may result in absorption of potentially harmful amounts of material. May lead to kidney damage. Can cause skin burns.
INGESTION: Toxic. Causes irritation or chemical burns of the mouth, throat, esophagus, and stomach. There may be discomfort or pain in the mouth, throat, chest, and abdomen, with difficulty in swallowing, nausea, vomiting, diarrhea, weakness, thirst, dizziness, faintness, drowsiness, headache, decreased awareness and responsiveness, euphoria, staggering gait, lack of coordination, shortness of breath, loss of consciousness and death.
NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.
MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: May aggravate an existing kidney disease, an existing liver disease. Skin contact may aggravate an existing dermatitis.
PRIMARY ROUTE(S) OF ENTRY: Inhalation, Dermal, Ingestion.
EMERGENCY FIRST AID PROCEDURES: When exposed always get medical attention.
EYE CONTACT: Flush with water for 15 minutes.
SKIN CONTACT: Wash with soap and water. Remove contaminated clothing and clean before reuse.
INHALATION: Remove to fresh air. Provide oxygen if breathing is difficult. Use artificial respiration if not breathing. Get medical attention.
IF SWALLOWED: DO NOT INDUCE VOMITING!! Always get medical attention.

SECTION VI - REACTIVITY DATA:

STABILITY: This product is stable under normal storage conditions.
HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.
HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of Carbon, Oxides of Nitrogen, Oxides of Silicon. Consider all smoke and fumes from burning material as

very hazardous. Welding, cutting or abrasive grinding can create smoke and fumes. Do not breathe any fumes or smoke from these operations.
CONDITIONS TO AVOID: Heat, sparks, and open flames.
INCOMPATIBILITY: Reaction with water or other aqueous media, including humidity in the air, is rapid and exothermic. The addition of small amounts of water (in the range of 2 - 15%) can produce an exothermic reaction which generates ethanol, to the extent that the resulting solution can reach a temperature which exceeds the flashpoint of the new solution. If a water solution is desired, add the product to water, and not vice versa. The TLV for ethanol is 1000 PPM.

SECTION VII - SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE OF SPILL: Eliminate all ignition sources. Handling equipment must be grounded to prevent sparking. Evacuate the area of unprotected personnel. Wear appropriate personal protection clothing and equipment. Follow safe handling and use guidelines in Section VIII. Contain and soak up residual with an absorbent (clay or sand). Take up absorbent material and seal tightly for proper disposal. Dispose of in accordance with local, state and federal regulations. Refer to Section II for Sara Title III and CERCLA information.

SECTION VIII - SAFE HANDLING AND USE INFORMATION:

RESPIRATORY PROTECTION: Use only with ventilation to keep levels below exposure guidelines. (Section II). User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use MSHA/NIOSH approved supplied air respirator. Follow all current OSHA requirements for respirator use.
VENTILATION: Use explosion-proof ventilation when required to keep below health exposure guidelines and Lower Explosion Limit (LEL).
SKIN AND EYE PROTECTION: Recommend impervious gloves, clothing and safety glasses with side shields or chemical goggles to avoid skin and eye contact. If material penetrates to skin, change gloves and clothing. Hypersensitive persons should wear gloves or use protective cream.
HYGIENIC PRACTICES: Wash with soap and water before eating, drinking, applying cosmetics, or using toilet facilities. Use of a hand cleaner is recommended. Launder contaminated clothing before reuse. Leather shoes can absorb and pass through hazardous materials. Check shoes carefully after soaking before reuse.
APPLICATION: Use only in accordance with Carboline application instructions, container label and Product Data Sheet.

SECTION IX - SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Do not swallow. Do not get in eyes, on skin or on clothing. Avoid breathing vapor and mist. Use with adequate ventilation. Wash thoroughly after handling. Keep away from heat, sparks, and open flame. Keep containers closed. Store in a cool, dry place

with adequate ventilation.

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations.

Carboline Company 350 Hanley Ind. Ct. St. Louis, MO 63144
PHONE NO. 314-644-1000 FOR INDUSTRIAL USE ONLY

CARBOLINE CO. MATERIAL SAFETY DATA SHEET
PRODUCT: CARBOXANE 2000 PART B (2000B1NL)
Date: 12/18/02 Replaces 11/06/02

SPECIFIC STATE REGULATORY INFORMATION

NEW JERSEY
PENNSYLVANIA
Non-Hazardous Materials above 1 Percent:

Name	CAS	Pct
PROPRIETARY	PROPRIETARY	60%

CALIFORNIA

WARNING: This product contains a chemical(s) known to the State of California to cause cancer, and birth defects or other reproductive harm.

Interfine® 878

Polysiloxane

Surface Preparation

All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:1992.

Primed Surfaces

Interfine 878 should always be applied over a recommended anti-corrosive coating scheme. The primer surface should be dry and free from all contamination, and Interfine 878 must be applied within the overcoating intervals specified (consult the relevant product data sheet).

Areas of breakdown, damage etc., should be prepared to the specified standard (e.g. SSPC-SP6 or Sa2½ (ISO 8501-1:1988), Abrasive Blasting, or SSPC-SP11, Power Tool Cleaning) and patch primed prior to the application of Interfine 878.

Application

Mixing

Material is supplied in two containers as a unit. Always mix a complete unit in the proportions supplied. Once the unit has been mixed it must be used within the working pot life specified.

(1) Agitate Base (Part A) with a power agitator.
(2) Combine entire contents of Curing Agent (Part B) with Base (Part A) and mix thoroughly with power agitator.

Mix Ratio

5 parts : 1 part by volume

Working Pot Life

41°F (5°C)	59°F(15°C)	77°F (25°C)	104°F (40°C)
3½ hours	2½ hours	2 hours	1½ hours

Airless Spray

Recommended

- Tip range 11-17 thou (0.28-0.43 mm)
- Total output fluid pressure at spray tip not less than 2,200 p.s.i. (155 kg/cm^2)

Air Spray (Pressure Pot)

Recommended

Gun	DeVilbiss MBC or JGA
Air Cap	704 or 765
Fluid Tip	E

Brush

Suitable - Small Areas Only

Typically 1-2 mils (25-50 microns) can be achieved

Roller

Suitable

Typically 2-3 mils (50-75 microns) can be achieved

Thinner

International GTA007

Do not thin more than allowed by local environmental legislation.

Cleaner

International GTA007

Work Stoppages

Do not allow material to remain in hoses, gun or spray equipment. Thoroughly flush all equipment with International GTA007. Once units of paint have been mixed they should not be resealed and it is advised that after prolonged stoppages, work recommences with freshly mixed units.

Clean Up

Clean all equipment immediately after use with International GTA007. It is good working practice to periodically flush out spray equipment during the course of the working day. Frequency of cleaning will depend upon amount sprayed, temperature and elapsed time, including any delays.

All surplus materials and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.

Interfine® 878

Polysiloxane

Product Characteristics

The technology utilized in Interfine 878 is covered by patent (US 6,281,321 and EP 0 941290).

Level of sheen and surface finish is dependent on application method. Avoid using a mixture of application methods whenever possible. Best results in terms of gloss and appearance will always be obtained with conventional air spray application.

For brush and roller applications, and in some colors, two coats of Interfine 878 may be required to give uniform coverage, especially when applying over dark undercoats. Best practice is to use a color compatible intermediate or anti-corrosive coating under the Interfine 878.

This product must only be thinned using the recommended International thinners. The use of alternative thinners, particularly those containing alcohols and ketones, can severely inhibit the curing mechanism of the coating.

Pot life times must not be exceeded even though the material may be still liquid and appear useable. It is good working practice that application should commence with full unopened units of material. Due to the moisture sensitivity with partially filled units of the curing agent component, there is a danger of reaction with atmospheric moisture which could adversely affect the performance of the final coating film.

Surface temperature must always be a minimum of 5°F (3°C) above dew point.

When applying Interfine 878 in confined spaces ensure adequate ventilation.

Care must be taken when spray applying multiple coats of Interfine 878 to ensure that a continuous wet film is applied to ensure a satisfactory coalescence occurs. Failure to do so may downgrade appearance and performance.

Interfine 878 will cure satisfactorily at relative humidities between 40% and 85%. Curing will be slower at lower humidities and faster at higher humidities.

Condensation occurring during or immediately after application may result in a matte finish and an inferior film.

When overcoating after weathering, or ageing, ensure the coating is fully cleaned to remove all surface contamination such as oil, grease, and salt crystals, before application of a further coat of Interfine 878.

Premature exposure to ponding water will cause color change, especially in dark colors and at low temperatures.

This product is not recommended for use in continuous immersion conditions.

Where prolonged chemical or solvent splashing is likely to occur contact International Protective Coatings for information regarding suitability.

Systems Compatibility

Interfine 878 can be applied over a limited range of intermediates.

Absolute maximum overcoating intervals with Interfine 878 are dependent upon the primer / intermediate. Relevant primer/intermediate product data sheet and Interfine 878 Recommended Working Procedures should be consulted prior to use.

Suitable intermediates are:

- Intercure 200
- Intercure 200HS
- Intergard 475HS
- Interplus 356
- Interseal 670HS
- Interzone 505
- Interzone 954

For other suitable primer/intermediates, consult International Protective Coatings.

Interfine® 878

Polysiloxane

Additional Information

Further information regarding industry standards, terms and abbreviations used in this data sheet can be found in the following sections of the International Protective Coatings data manual:

- Definitions & Abbreviations
- Surface Preparation
- Paint Application
- Practical & Theoretical Coverage
- Interfine 878 Recommended Working Procedures

Individual copies of these information sections are available upon request.

Safety Precautions

This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet, the Material Safety Data Sheet and the container(s), and should not be used without reference to the Material Safety Data Sheet (MSDS) which International Protective Coatings has provided to its customers.

All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

In the event welding or flame cutting is performed on metal coated with this product, dust and fume will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation.

If in doubt regarding the suitability of use of this product, consult International Protective Coatings for further advice.

Pack Size

5 gallon unit	Interfine 878 Base	4.17 gallons in a 5 gallon container
	Interfine 878 Curing Agent	0.83 gallon in a 1 gallon container
20 liter unit	Interfine 878 Base	16.67 liters in a 20 liter container
	Interfine 878 Curing Agent	3.33 liters in a 5 liter container

For availability of other pack sizes contact International Protective Coatings

Shipping Weight

U.N. Shipping No.	1263
5 gallon unit	54.6 lb (24.8 kg) Base (Part A) 7.6 lb (3.5 kg) Curing Agent (Part B)
20 liter unit	56.0 lb (25.4 kg) Base (Part A) 8.2 lb (3.7 kg) Curing Agent (Part B)

Storage

Shelf Life	12 months minimum at 77°F (25°C). Subject to re-inspection thereafter. Store in dry, shaded conditions away from sources of heat and ignition.

Disclaimer

The information given in this sheet is not intended to be exhaustive and any person using the product for any purpose other than that specifically recommended in this sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. Any warranty, if given, or specific Terms & Conditions of Sale are contained in International's Terms & Conditions of Sale, a copy of which can be obtained on request. While we endeavor to ensure that all advice we give about the product (whether in this sheet or otherwise) is correct we have no control over either the quality or condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing to do so, we do not accept any liability whatsoever or howsoever arising for the performance of the product or for any loss or damage (other than death or personal injury resulting from our negligence) arising out of the use of the product. The information contained in this sheet is liable to modification from time to time in the light of experience and our policy of continuous product development.

It is the user's responsibility to check that this sheet is current prior to using the product. Issue date: 22nd January 2004

Copyright © International Paint Ltd. ✖ *and International are trademarks.*

International Protective Coatings

Worldwide Availability

World Centre	Asia Region	Australasia Region	Europe Region	Middle East Region	North America Region	South America Region
P.O Box 20980 Oriel House 16 Connaught Place London, W2 2ZB England	3 Neythal Road Jurong Town Singapore 628570	115 Hyde Road Yeronga Brisbane Queensland Australia	P.O Box 20980 Oriel House 16 Connaught Place London, W2 2ZB England	PO Box 37 Dammam 31411 Saudi Arabia	6001 Antoine Drive Houston Texas 77091	Av Paiva 999, Neves, Sao Gonçalo, Rio de Janeiro Brazil
Tel: (44) 20 7479 6000 Fax: (44) 20 7479 6500	Tel: (65) 663 3066 Fax: (65) 266 5287	Tel: (61) 7 3892 8888 Fax: (61) 7 3892 4287 H&S (61) 1800 807 001	Tel: (44) 20 7479 6000 Fax: (44) 20 7479 6500	Tel: (966) 3 812 1044 Fax: (966) 3 812 1169	Tel: (1) 713 682 1711 Fax: (1) 713 684 1514	Tel: (55) 21 624 7100 Fax: (55) 21 624 7123

USA Toll Free Number (800) 589 1267
www.international-pc.com

MATERIAL SAFETY DATA SHEET Sales Order:

INTERFINE 878 LIGHT BASE

MSDS Revision No: A0 -4
MSDS Revision Date: 01/30/2004

International Paint Inc.
6001 Antoine Drive
Houston, Texas 77091

EMERGENCY NUMBERS:

(800) 424-9300 CHEMTREC (USA)
(703) 527-3887 CHEMTREC (Intl)
(800) 854-6813 Poison Control Center

CUSTOMER SERVICE: (Non-Emergency)
(800) 589-1267 International Paint
(800) 631-7481 Interlux

1. GENERAL INFORMATION

Product Identity: INTERFINE 878 LIGHT BASE

Bulk Sales Reference No: SZA011

IMPORTANT: Read this MSDS before handling or disposing of this product, and provide this information to the employee, customers, and users of this product. PLEASE NOTE THE MSDS REVISION NUMBER AT THE TOP OF THIS PAGE. If the MSDS Revision Number posted at the top of this page does not match the MSDS Revision Number on the product label, please contact Customer Service at the phone number included above for the correct MSDS. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard.

NOTICE: OSHA hazardous chemicals are listed in Section 2 if present at 1% or more. Carcinogens and extraordinarily/special hazardous chemicals are listed in Section 2 if present at .1% or more. Additional regulatory information for specific chemical categories is included in Section 15.

2. HAZARDOUS INGREDIENT INFORMATION

CAS No.	Ingredient Name & %	Source	Exposure Data
000067-56-1	Methyl alcohol 1.0 - 10% by Weight	OSHA:	200 ppm TWA; 260 mg/m3 TWA250 ppm STEL; 325 mg/m3 STEL
		ACGIH:	200 ppm TWA250 ppm STEL
		NIOSH:	200 ppm TWA; 260 mg/m3 TWA250 ppm STEL; 325 mg/m3 STEL6000 ppm IDLH
		Supplier:	No Data Available
		OHSA, CAN:	200 ppm TWAEV; 260 mg/m3 TWAEV250 ppm STEV; 325 mg/m3 STEV
		Mexico:	200 ppm TWA; 260 mg/m3 TWA50 ppm STEL; 250 mg/m3 STEL
		Brazil:	156 ppm TWA; 200 mg/m3 TWA

		Source	**Health Data**
		NIOSH:	Blindness metabolic acidosis
		Source	**Carcinogen Data**
		OSHA:	Select Carcinogen: No
		NTP:	Known Carcinogen: No; Suspected Carcinogen: No
		IARC:	Group 1: No; Group 2A: No; Group 2b: No; Group 3: No; Group 4: No

CAS No.	Ingredient Name & %	Source	Exposure Data
000067-63-0	Isopropyl alcohol 1.0 - 10% by Weight	OSHA:	400 ppm TWA; 980 mg/m3 TWA500 ppm STEL; 1225 mg/m3 STEL
		ACGIH:	200 ppm TWA400 ppm STEL
		NIOSH:	400 ppm TWA; 980 mg/m3 TWA500 ppm STEL; 1225 mg/m3 STEL2000 ppm IDLH
		Supplier:	No Data Available
		OHSA, CAN:	400 ppm TWAEV; 980 mg/m3 TWAEV500 ppm STEV; 1225 mg/m3 STEV
		Mexico:	400 ppm TWA; 980 mg/m3 TWA500 ppm STEL; 1225 mg/m3 STEL
		Brazil:	310 ppm TWA; 765 mg/m3 TWA
		Source	**Health Data**
		NIOSH:	Mucous membrane irritation; possible carcinogenic effects
		Source	**Carcinogen Data**
		OSHA:	Select Carcinogen: No
		NTP:	Known Carcinogen: No; Suspected Carcinogen: No
		IARC:	Group 1: No; Group 2A: No; Group 2b: No; Group 3: Yes; Group 4: No

CAS No.	Ingredient Name & %	Source	Exposure Data
000108-65-6	Propylene glycol monomethyl ether acetate 1.0 - 10% by Weight	OSHA:	No Data Available
		ACGIH:	No Data Available
		NIOSH:	No Data Available
		Supplier:	No Data Available
		OHSA, CAN:	50 ppm TWAEV; 270 mg/m3 TWAEV
		Mexico:	No Data Available
		Brazil:	No Data Available
		Source	**Health Data**

NIOSH:	No Data Available

Source	Carcinogen Data
OSHA:	Select Carcinogen: No
NTP:	Known Carcinogen: No; Suspected Carcinogen: No
IARC:	Group 1: No; Group 2A: No; Group 2b: No; Group 3: No; Group 4: No

CAS No.	Ingredient Name & %	Source	Exposure Data
001330-20-7	Xylenes (o-, m-, p- isomers) 1.0 - 10% by Weight	OSHA:	100 ppm TWA; 435 mg/m3 TWA150 ppm STEL; 655 mg/m3 STEL
		ACGIH:	100 ppm TWA150 ppm STEL
		NIOSH:	No Data Available
		Supplier:	No Data Available
		OHSA, CAN:	100 ppm TWAEV; 435 mg/m3 TWAEV150 ppm STEV; 650 mg/m3 STEV
		Mexico:	100 ppm TWA; 435 mg/m3 TWA150 ppm STEL; 655 mg/m3 STEL
		Brazil:	78 ppm TWA; 340 mg/m3 TWA
		Source	**Health Data**
		NIOSH:	Central nervous system depressant; respiratory and eye irritation
		Source	**Carcinogen Data**
		OSHA:	Select Carcinogen: No
		NTP:	Known Carcinogen: No; Suspected Carcinogen: No
		IARC:	Group 1: No; Group 2A: No; Group 2b: No; Group 3: Yes; Group 4: No

CAS No.	Ingredient Name & %	Source	Exposure Data
007727-43-7	Barium sulfate 10 - 25% by Weight	OSHA:	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
		ACGIH:	10 mg/m3 TWA
		NIOSH:	10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust) 50 mg/m3 IDLH (as Ba, except barium sulfate)
		Supplier:	No Data Available
		OHSA, CAN:	10 mg/m3 TWAEV (total dust)
		Mexico:	0.5 mg/m3 TWA
		Brazil:	No Data Available
		Source	**Health Data**
		NIOSH:	Eye nose

Source	Carcinogen Data
OSHA:	Select Carcinogen: No
NTP:	Known Carcinogen: No; Suspected Carcinogen: No
IARC:	Group 1: No; Group 2A: No; Group 2b: No; Group 3: No; Group 4: No

CAS No.	Ingredient Name & %	Source	Exposure Data
013048-33-4	1,6-Hexanediol diacrylate 10 - 25% by Weight	OSHA:	No Data Available
		ACGIH:	No Data Available
		NIOSH:	No Data Available
		Supplier:	No Data Available
		OHSA, CAN:	No Data Available
		Mexico:	No Data Available
		Brazil:	No Data Available
		Source	**Health Data**
		NIOSH:	No Data Available
		Source	**Carcinogen Data**
		OSHA:	Select Carcinogen: No
		NTP:	Known Carcinogen: No; Suspected Carcinogen: No
		IARC:	Group 1: No; Group 2A: No; Group 2b: No; Group 3: No; Group 4: No

CAS No.	Ingredient Name & %	Source	Exposure Data
013463-67-7	Titanium dioxide 10 - 25% by Weight	OSHA:	15 mg/m3 TWA (total dust)
		ACGIH:	10 mg/m3 TWA
		NIOSH:	5000 mg/m3 IDLH
		Supplier:	No Data Available
		OHSA, CAN:	10 mg/m3 TWAEV (total dust)
		Mexico:	10 mg/m3 TWA (nuisance particulate)20 mg/m3 STEL
		Brazil:	No Data Available
		Source	**Health Data**
		NIOSH:	Lung tumors in animals
		Source	**Carcinogen Data**

	OSHA:	Select Carcinogen: No
	NTP:	Known Carcinogen: No; Suspected Carcinogen: No
	IARC:	Group 1: No; Group 2A: No; Group 2b: No; Group 3: Yes; Group 4: No

CAS No.	Ingredient Name & %	Source	Exposure Data
068957-04-0	Siloxanes and Silicones, di-Me, methoxy Ph, polymers with Phsilsesquioxanes, methoxy-terminated 10 - 25% by Weight	OSHA:	No Data Available
		ACGIH:	No Data Available
		NIOSH:	No Data Available
		Supplier:	No Data Available
		OHSA, CAN:	No Data Available
		Mexico:	No Data Available
		Brazil:	No Data Available
		Source	**Health Data**
		NIOSH:	No Data Available
		Source	**Carcinogen Data**
		OSHA:	Select Carcinogen: No
		NTP:	Known Carcinogen: No; Suspected Carcinogen: No
		IARC:	Group 1: No; Group 2A: No; Group 2b: No; Group 3: No; Group 4: No

CAS No.	Ingredient Name & %	Source	Exposure Data
TS-KH6529	Acrylated Urethane Oligomer 10 - 25% by Weight	OSHA:	No Data Available
		ACGIH:	No Data Available
		NIOSH:	No Data Available
		Supplier:	No Data Available
		OHSA, CAN:	No Data Available
		Mexico:	No Data Available
		Brazil:	No Data Available
		Source	**Health Data**
		NIOSH:	No Data Available
		Source	**Carcinogen Data**
		OSHA:	Select Carcinogen: No

NTP:	Known Carcinogen: No; Suspected Carcinogen: No
IARC:	Group 1: No; Group 2A: No; Group 2b: No; Group 3: No; Group 4: No

3. HAZARD IDENTIFICATION

Overview:	NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Avoid contact with eyes, skin and clothing.
Inhalation:	May be harmful or fatal if inhaled. Causes lung irritation. Causes nose and throat irritation. Vapors may affect the brain or nervous system causing dizziness, headache or nausea.
Eyes:	May cause blindness. Do not get in eyes.
Skin:	Causes skin irritation. May cause allergic skin reaction. May be harmful if absorbed through the skin.
Ingestion:	Poison. Cannot be made non-poisonous. May be fatal or cause blindness if swallowed. Cannot be made non-poisonous.
Chronic Effects:	Contains an ingredient which can cause organ damage (See Section 2 and Section 15 for each ingredient). Birth defect hazard. Contains an ingredient which can cause birth defects (See Section 2 and Section 15 for each ingredient). Possible cancer hazard. Contains an ingredient which may cause cancer based on animal data (See Section 2 and Section 15 for each ingredient). Risk of cancer depends on duration and level of exposure.
HMIS Rating:	Health: 3 Flammability: 3 Reactivity: 0

4. FIRST AID MEASURES

General:	Remove contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean or destroy contaminated shoes.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Eyes:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
Skin:	In case of contact, immediately flush skin with soap and plenty of water. Get medical attention immediately.
Ingestion:	If swallowed, immediately contact Poison Control Center at 1-800-854-6813. DO NOT induce vomiting unless instructed to do so by medical personnel. Never give anything by mouth to an unconscious person.

5. PROTECTIVE EQUIPMENT AND CONTROL MEASURES

Respiratory:	Select equipment to provide protection from the ingredients listed in Section 2 of this document. Ensure fresh air entry during application and drying. If you experience eye watering, headache or dizziness or if air monitoring demonstrates dust, vapor, or mist levels are above applicable limits, wear an appropriate, properly fitted respirator (NIOSH approved) during and after application. Follow respirator manufacturer's directions for respirator use. FOR USERS OF 3M RESPIRATORY PROTECTION ONLY: For information and assistance on 3M occupational health and safety products, call OH&ESD Technical Service toll free in U. S.A. 1-800-243-4630, in Canada call 1-800-267-4414. Please do not contact these numbers regarding other manufacturer's respiratory protection products. 3M does not endorse the accuracy of the information contained in this Material Safety Data Sheet.
Eyes:	Do not get in eyes. Protective equipment should be selected to provide protection from exposure to the chemicals listed in Section 2 of this document. Depending on the site-specific conditions of use, safety glasses, chemical goggles, and/or head and face protection may be required to prevent contact. The equipment must be thoroughly cleaned, or discarded after each use.
Skin/Hand:	Protective equipment should be selected to provide protection from exposure to the chemicals listed in Section 2 of this document. Depending on the site-specific conditions of use, protective gloves, apron, boots, head and face protection may be required to prevent contact. The equipment must be thoroughly cleaned, or discarded after each use.
Engineering Controls:	Prevent build-up of vapors by opening all windows and doors to achieve cross-ventilation.
Other Work Practices:	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Wash hands before eating, drinking, using toilet facilities, etc. Promptly remove soiled clothing and wash clothing thoroughly before reuse. Shower after work using plenty of soap and water.

6. FIRE AND EXPLOSION INFORMATION

Flash Point:	F: 93 C: 34
Lower Explosive Limit (LEL):	1 (%vol in air) at Normal Atmospheric Temp and Pressure
Fire and Explosion Hazards:	Flammable liquid and vapor. FLAMMABLE/COMBUSTIBLE MATERIALS: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks) creating a vapor explosion hazard. Runoff to sewers may create fire or explosion hazard. Containers may explode when heated.
Fire Fighting Procedures:	CAUTION: This product has a very low flashpoint. Use of water spray when fighting fire may be inefficient. SMALL FIRES: Use dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRES: Use water spray, fog, or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do so without risk. Runoff from fire control may cause pollution. Dike fire control water for later disposal. Do not scatter the material. **Also Reference Emergency Response Guide Number:** 127

7. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
pH:	Not Determined
Specific Gravity:	1.438207
Boiling Point (F):	180
Vapor Density:	Heavier than air
VOC Content (lbs):	Refer to the Technical Data Sheet for this product.
Evaporation Rate:	Slower than ether

8. STABILITY AND REACTIVITY DATA

General:	This product is stable and hazardous polymerization will not occur.
Incompatible Materials:	Strong oxidizing agents.
Hazardous Decompostion:	May produce hazardous fumes when heated to decomposition as in welding. Fumes may produce Carbon Dioxide and Carbon Monoxide.

9. HANDLING AND STORAGE

Storage Temperature:	Store between 32 and 120 F
Handling and Storage Precautions:	Keep away from heat, sparks and flame. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and other sources of ignition during use and until all vapors are gone. Vapors may cause flash fire or ignite explosively. Prevent build-up of vapors by opening all windows and doors to achieve cross-ventilation. Do not get in eyes, on skin or clothing. Close container after each use. Wash thoroughly after handling.

10. TOXICOLOGICAL DATA

General:	NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. No additional information provided for this product. See Section 2 for chemical specific data.

11. ECOLOGICAL DATA

General:	No additional information provided for this product. See Section 2 for chemical specific data.

12. ACCIDENTAL RELEASE MEASURES

Spill Response Procedures:	ELIMINATE ALL IGNITION SOURCES (no smoking, flares, sparks or flames in immediate area). Use only non-sparking equipment to handle spilled material and absorbent. Do not touch or walk through spilled material. Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand, or other non-combustible material and transfer to containers. Use non-sparking tools to collect absorbed material.
Public Safety:	CALL CHEMTREC at (800)-424-9300 for emergency response. Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. LARGE SPILLS: Consider initial downwind evacuation for at least 300 meters (1000 feet). **Also, Reference Emergency Response Guide Number: 127**

13. DISPOSAL CONSIDERATION

Waste Disposal:	Dispose of in accordance with local, state and federal regulations. (Also reference RCRA information in Section 15 if listed).

14. TRANSPORTATION INFORMATION

DOT (Domestic Surface Transportation)		**IMO / IMDG (Ocean Transportation)**	
DOT Proper Shipping Name: PAINT		**IMDG Proper Shipping Name:** PAINT	
DOT Hazard Class:	3	**IMDG Hazard Class:**	3.3 - High flashpoint flammable liquids
UN / NA Number:	UN 1263	**UN Number:**	UN 1263
DOT Packing Group:	III	**IMDG Packing Group:**	III
CERCLA/DOT RQ:	334 gal. / 4002 lbs.	**System Reference Code:**	2

15. REGULATORY INFORMATION

Regulatory Overview:	The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented. All ingredients of this product are listed on the TSCA (Toxic Substance Control Act) Inventory or are not required to be listed on the TSCA Inventory. **Note:** Any chemical ingredients listed in Section 15, that do not also appear in Section 2, are contained in the product at a concentration below the applicable OSHA threshold level of 1% or 0.1%.
WHMIS Classification:	B2; D2B; E

Regulatory List	**Product Ingredients on List**
DOT Marine Pollutants (10%):	
(No Product Ingredients Listed)	
DOT Severe Marine Pollutants (1%):	
(No Product Ingredients Listed)	
EPCRA 311/312 Chemicals and RQs (>.1%) :	
000100-41-4	Ethyl benzene : 1000 lb final RQ; 454 kg final RQ
000067-56-1	Methyl alcohol : 5000 lb final RQ; 2270 kg final RQ
001330-20-7	Xylenes (o-, m-, p- isomers) : 100 lb final RQ; 45.4 kg final RQ
EPCRA 302 Extremely Hazardous (>.1%) :	
(No Product Ingredients Listed)	
EPCRA 313 Toxic Chemicals (>.1%) :	
001344-28-1	Aluminum oxide
007727-43-7	Barium sulfate
000100-41-4	Ethyl benzene
000067-63-0	Isopropyl alcohol
000067-56-1	Methyl alcohol
000108-65-6	Propylene glycol monomethyl ether acetate
001330-20-7	Xylenes (o-, m-, p- isomers)
Mass RTK Substances (>1%) :	
007727-43-7	Barium sulfate
000067-63-0	Isopropyl alcohol
000067-56-1	Methyl alcohol
013463-67-7	Titanium dioxide
001330-20-7	Xylenes (o-, m-, p- isomers)
Mass Extraordinarily Haz Sub (>.01%) :	
(No Product Ingredients Listed)	
Penn RTK Substances (>1%) :	

007727-43-7	Barium sulfate
000067-63-0	Isopropyl alcohol
000067-56-1	Methyl alcohol
000108-65-6	Propylene glycol monomethyl ether acetate
013463-67-7	Titanium dioxide
001330-20-7	Xylenes (o-, m-, p- isomers)

Penn Special Hazardous Substances (>.01%) :

(No Product Ingredients Listed)

Rhode Island Hazardous Substances (>.1%) :

001344-28-1	Aluminum oxide
000100-41-4	Ethyl benzene
000067-63-0	Isopropyl alcohol
000067-56-1	Methyl alcohol
013463-67-7	Titanium dioxide
001330-20-7	Xylenes (o-, m-, p- isomers)

RCRA Status (>.01%) :

(No Product Ingredients Listed)

N.J. RTK Substances (>1%) :

000067-63-0	Isopropyl alcohol
000067-56-1	Methyl alcohol
013463-67-7	Titanium dioxide
001330-20-7	Xylenes (o-, m-, p- isomers)

N.J. Special Hazardous Substances (>.01%) :

000067-63-0	Isopropyl alcohol
000067-56-1	Methyl alcohol
001330-20-7	Xylenes (o-, m-, p- isomers)

N.J. Env. Hazardous Substances (>.1%) :

001344-28-1	Aluminum oxide
007727-43-7	Barium sulfate
000100-41-4	Ethyl benzene
000067-63-0	Isopropyl alcohol
000067-56-1	Methyl alcohol
000108-65-6	Propylene glycol monomethyl ether acetate
001330-20-7	Xylenes (o-, m-, p- isomers)

Proposition 65 - Carcinogens (>0%):

(No Product Ingredients Listed)

Proposition 65 - Female Repro Toxins (>0%):

(No Product Ingredients Listed)

Proposition 65 - Male Repro Toxins (>0%):
(No Product Ingredients Listed)
Proposition 65 - Developmental Toxins (>0%):
(No Product Ingredients Listed)

---

16. OTHER INFORMATION

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

End Of Document

MATERIAL SAFETY DATA SHEET

Sales Order:

INTERFINE 878 CONVERTER

MSDS Revision No: A0 -4
MSDS Revision Date: 01/07/2004

International Paint Inc.
6001 Antoine Drive
Houston, Texas 77091

EMERGENCY NUMBERS:

(800) 424-9300 CHEMTREC (USA)
(703) 527-3887 CHEMTREC (Intl)
(800) 854-6813 Poison Control Center

CUSTOMER SERVICE: (Non-Emergency)
(800) 589-1267 International Paint
(800) 631-7481 Interlux

1. GENERAL INFORMATION

Product Identity: INTERFINE 878 CONVERTER

Bulk Sales Reference No: SZA056

IMPORTANT: Read this MSDS before handling or disposing of this product, and provide this information to the employee, customers, and users of this product. PLEASE NOTE THE MSDS REVISION NUMBER AT THE TOP OF THIS PAGE. If the MSDS Revision Number posted at the top of this page does not match the MSDS Revision Number on the product label, please contact Customer Service at the phone number included above for the correct MSDS. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard.

NOTICE: OSHA hazardous chemicals are listed in Section 2 if present at 1% or more. Carcinogens and extraordinarily/special hazardous chemicals are listed in Section 2 if present at .1% or more. Additional regulatory information for specific chemical categories is included in Section 15.

2. HAZARDOUS INGREDIENT INFORMATION

CAS No.	Ingredient Name & %	Source	Exposure Data
000919-30-2	TRIETHOXYSILYL) PROPYLAMINE 50 - 75% by Weight	OSHA:	No Data Available
		ACGIH:	No Data Available
		NIOSH:	No Data Available
		Supplier:	No Data Available
		OHSA, CAN:	No Data Available
		Mexico:	No Data Available
		Brazil:	No Data Available
		Source	**Health Data**

		NIOSH:	No Data Available
		Source	**Carcinogen Data**
		OSHA:	Select Carcinogen: No
		NTP:	Known Carcinogen: No; Suspected Carcinogen: No
		IARC:	Group 1: No; Group 2A: No; Group 2b: No; Group 3: No; Group 4: No

CAS No.	Ingredient Name & %	Source	Exposure Data
001067-33-0	Dibutyltin diacetate 1.0 - 10% by Weight	OSHA:	No Data Available
		ACGIH:	No Data Available
		NIOSH:	No Data Available
		Supplier:	No Data Available
		OHSA, CAN:	No Data Available
		Mexico:	No Data Available
		Brazil:	No Data Available
		Source	**Health Data**
		NIOSH:	No Data Available
		Source	**Carcinogen Data**
		OSHA:	Select Carcinogen: No
		NTP:	Known Carcinogen: No; Suspected Carcinogen: No
		IARC:	Group 1: No; Group 2A: No; Group 2b: No; Group 3: No; Group 4: No

CAS No.	Ingredient Name & %	Source	Exposure Data
013822-56-5	Gamma-Aminopropyltrimethoxysilane 10 - 25% by Weight	OSHA:	No Data Available
		ACGIH:	No Data Available
		NIOSH:	No Data Available
		Supplier:	No Data Available
		OHSA, CAN:	No Data Available
		Mexico:	No Data Available
		Brazil:	No Data Available
		Source	**Health Data**
		NIOSH:	No Data Available

Source	Carcinogen Data
OSHA:	Select Carcinogen: No
NTP:	Known Carcinogen: No; Suspected Carcinogen: No
IARC:	Group 1: No; Group 2A: No; Group 2b: No; Group 3: No; Group 4: No

3. HAZARD IDENTIFICATION

Overview:	NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Avoid contact with eyes, skin and clothing. Overexposure may cause heart, liver and kidney damage.
Inhalation:	Harmful if inhaled. Causes nose and throat irritation. Vapors may affect the brain or nervous system causing dizziness, headache or nausea.
Eyes:	May cause blindness. Avoid contact with eyes.
Skin:	Causes skin burns. May be harmful if absorbed through the skin.
Ingestion:	May be fatal or cause blindness if swallowed. Cannot be made non-poisonous.
Chronic Effects:	Cancer hazard. Contains an ingredient which can cause cancer (See Section 2 and Section 15 for each ingredient). Risk of cancer depends on duration and level of exposure.
HMIS Rating:	Health: 3 Flammability: 2 Reactivity: 0

4. FIRST AID MEASURES

General:	Remove contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean or destroy contaminated shoes.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Eyes:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
Skin:	In case of contact, immediately flush skin with soap and plenty of water. Get medical attention immediately.
Ingestion:	If swallowed, immediately contact Poison Control Center at 1-800-854-6813. DO NOT induce vomiting unless instructed to do so by medical personnel. Never give anything by mouth to an unconscious person.

5. PROTECTIVE EQUIPMENT AND CONTROL MEASURES

Respiratory:	Select equipment to provide protection from the ingredients listed in Section 2 of this document. Ensure fresh air entry during application and drying. If you experience eye watering, headache or dizziness or if air monitoring demonstrates dust, vapor, or mist levels are above applicable limits, wear an appropriate, properly fitted respirator (NIOSH approved) during and after application. Follow respirator manufacturer's directions for respirator use. FOR USERS OF 3M RESPIRATORY PROTECTION ONLY: For information and assistance on 3M occupational health and safety products, call OH&ESD Technical Service toll free in U. S.A. 1-800-243-4630, in Canada call 1-800-267-4414. Please do not contact these numbers regarding other manufacturer's respiratory protection products. 3M does not endorse the accuracy of the information contained in this Material Safety Data Sheet.
Eyes:	Avoid contact with eyes. Protective equipment should be selected to provide protection from exposure to the chemicals listed in Section 2 of this document. Depending on the site-specific conditions of use, safety glasses, chemical goggles, and/or head and face protection may be required to prevent contact. The equipment must be thoroughly cleaned, or discarded after each use.
Skin/Hand:	Protective equipment should be selected to provide protection from exposure to the chemicals listed in Section 2 of this document. Depending on the site-specific conditions of use, protective gloves, apron, boots, head and face protection may be required to prevent contact. The equipment must be thoroughly cleaned, or discarded after each use.
Engineering Controls:	Prevent build-up of vapors by opening all windows and doors to achieve cross-ventilation.
Other Work Practices:	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Wash hands before eating, drinking, using toilet facilities, etc. Promptly remove soiled clothing and wash clothing thoroughly before reuse. Shower after work using plenty of soap and water.

6. FIRE AND EXPLOSION INFORMATION

Flash Point:	F: 134 C: 57
Lower Explosive Limit (LEL):	1 (%vol in air) at Normal Atmospheric Temp and Pressure
Fire and Explosion Hazards:	Combustible liquid and vapor. FLAMMABLE/COMBUSTIBLE MATERIALS: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks) creating a vapor explosion hazard. Runoff to sewers may create fire or explosion hazard. Containers may explode when heated.
Fire Fighting Procedures:	CAUTION: This product has a very low flashpoint. Use of water spray when fighting fire may be inefficient. SMALL FIRES: Use dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRES: Use water spray, fog, or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do so without risk. Runoff from fire control may cause pollution. Dike fire control water for later disposal. Do not scatter the material. **Also Reference Emergency Response Guide Number:** 127

7. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
pH:	Not Determined
Specific Gravity:	0.976031
Boiling Point (F):	270
Vapor Density:	Heavier than air
VOC Content (lbs):	Refer to the Technical Data Sheet for this product.
Evaporation Rate:	Slower than ether

8. STABILITY AND REACTIVITY DATA

General:	This product is stable and hazardous polymerization will not occur.
Incompatible Materials:	Strong oxidizing agents.
Hazardous Decompostion:	May produce hazardous fumes when heated to decomposition as in welding. Fumes may produce Carbon Dioxide and Carbon Monoxide.

9. HANDLING AND STORAGE

Storage Temperature:	Store between 32 and 120 F
Handling and Storage Precautions:	Keep away from heat, sparks and flame. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and other sources of ignition during use and until all vapors are gone. Vapors may cause flash fire or ignite explosively. Prevent build-up of vapors by opening all windows and doors to achieve cross-ventilation. Avoid contact with eyes, skin and clothing. Close container after each use. Wash thoroughly after handling.

10. TOXICOLOGICAL DATA

General:	NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. No additional information provided for this product. See Section 2 for chemical specific data.

11. ECOLOGICAL DATA

General:	No additional information provided for this product. See Section 2 for chemical specific data.

12. ACCIDENTAL RELEASE MEASURES

Spill Response Procedures:	ELIMINATE ALL IGNITION SOURCES (no smoking, flares, sparks or flames in immediate area). Use only non-sparking equipment to handle spilled material and absorbent. Do not touch or walk through spilled material. Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand, or other non-combustible material and transfer to containers. Use non-sparking tools to collect absorbed material.
Public Safety:	CALL CHEMTREC at (800)-424-9300 for emergency response. Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. LARGE SPILLS: Consider initial downwind evacuation for at least 300 meters (1000 feet). **Also, Reference Emergency Response Guide Number: 127**

13. DISPOSAL CONSIDERATION

Waste Disposal:	Dispose of in accordance with local, state and federal regulations. (Also reference RCRA information in Section 15 if listed).

14. TRANSPORTATION INFORMATION

DOT (Domestic Surface Transportation)		**IMO / IMDG (Ocean Transportation)**	
DOT Proper Shipping Name: PAINT		**IMDG Proper Shipping Name:** PAINT	
DOT Hazard Class:	3	**IMDG Hazard Class:**	3.3 - High flashpoint flammable liquids
UN / NA Number:	UN 1263	**UN Number:**	UN 1263
DOT Packing Group:	III	**IMDG Packing Group:**	III
CERCLA/DOT RQ:	Not Applicable gal. / Not Applicable lbs.	**System Reference Code:**	1

15. REGULATORY INFORMATION

Regulatory Overview:	The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented. All ingredients of this product are listed on the TSCA (Toxic Substance Control Act) Inventory or are not required to be listed on the TSCA Inventory. **Note:** Any chemical ingredients listed in Section 15, that do not also appear in Section 2, are contained in the product at a concentration below the applicable OSHA threshold level of 1% or 0.1%.
WHMIS Classification:	B3; D2; E

Regulatory List	**Product Ingredients on List**
DOT Marine Pollutants (10%):	
(No Product Ingredients Listed)	
DOT Severe Marine Pollutants (1%):	
(No Product Ingredients Listed)	
EPCRA 311/312 Chemicals and RQs (>.1%) :	
(No Product Ingredients Listed)	
EPCRA 302 Extremely Hazardous (>.1%) :	
(No Product Ingredients Listed)	
EPCRA 313 Toxic Chemicals (>.1%) :	
(No Product Ingredients Listed)	
Mass RTK Substances (>1%) :	
001067-33-0	Dibutyltin diacetate
Mass Extraordinarily Haz Sub (>.01%) :	
(No Product Ingredients Listed)	
Penn RTK Substances (>1%) :	
(No Product Ingredients Listed)	
Penn Special Hazardous Substances (>.01%) :	
(No Product Ingredients Listed)	
Rhode Island Hazardous Substances (>.1%) :	
000064-17-5	Ethyl alcohol

RCRA Status (>.01%) :
(No Product Ingredients Listed)
N.J. RTK Substances (>1%) :
(No Product Ingredients Listed)
N.J. Special Hazardous Substances (>.01%) :
(No Product Ingredients Listed)
000064-17-5 Ethyl alcohol
N.J. Env. Hazardous Substances (>.1%) :
(No Product Ingredients Listed)
Proposition 65 - Carcinogens (>0%):
(No Product Ingredients Listed)
Proposition 65 - Female Repro Toxins (>0%):
(No Product Ingredients Listed)
Proposition 65 - Male Repro Toxins (>0%):
(No Product Ingredients Listed)
Proposition 65 - Developmental Toxins (>0%):
000064-17-5 Ethyl alcohol

16. OTHER INFORMATION

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

End Of Document

Interfine 979

Polysiloxane

International Protective Coatings

WORLD WIDE PRODUCT RANGE

Product Description

A patented (US 6,281,321 and EP 0 941290), high performance, two component, high solids inorganic hybrid finish which offers compliance to all current VOC legislation, and is free from isocyanates.

Interfine 979 significantly improves upon the gloss and colour retention exhibited by typical polyurethane finishes as well as offering improvement in gloss and colour retention when compared to 1st generation epoxy modified polysiloxane finishes.

Interfine 979 also displays the same corrosion resistance and has enhanced mechanical properties when compared to traditional epoxy technology.

Intended Uses

Interfine 979 is part of International's premium range of polysiloxane finishes. It is designed to provide excellent long-term colour and gloss retention and provide extended lifetime to first maintenance when utilised as part of a high performance anti-corrosive system. Interfine 979 is intended for use in those market sectors where visual impact is important, and the need for a high standard of cosmetic appearance is required. These include high performance constructions such as bridges, offshore structures and tank farms in addition to general industrial and commercial steelwork where high levels of cosmetic performance are a key requirement.

The dual benefits of corrosion protection & high cosmetic appearance afforded by Interfine 979 means that as well as exhibiting superior durability, this product also serves as an effective barrier coat similar to a traditional epoxy intermediate, and as such, allows a reduction in the total number of coats required from a multi-coat high performance system - saving application costs, and improving productivity during application.

Practical Information for Interfine 979

Colour	Wide range available via Chromascan
Gloss Level	Gloss
Volume Solids	76%
Typical Thickness	100-150 microns (4-6 mils) dry equivalent to 132-197 microns (5.3-7.9 mils) wet
Theoretical Coverage	6.1 m^2/litre at 125 microns d.f.t and stated volume solids 244 sq.ft/US gallon at 5 mils d.f.t and stated volume solids
Practical Coverage	Allow appropriate loss factors
Method of Application	Airless spray, Air spray, Brush, Roller

Drying Time†▲

			Overcoating Interval with Recommended Primers & Intermediates		Overcoating Interval with Interfine 979	
Temperature	Touch Dry	Hard Dry	*Minimum*	*Maximum#*	*Minimum*	*Maximum*
5°C (41°F)	6 hours	8 hours	8 hours	7-28 days	8 hours	Extended*
15°C (59°F)	4½ hours	6 hours	6 hours	7-28 days	6 hours	Extended*
25°C (77°F)	3 hours	4 hours	4 hours	7-28 days	4 hours	Extended*
40°C (104°F)	1½ hours	2½ hours	2½ hours	2-28 days	2½ hours	Extended*

* See International Protective Coatings Definitions & Abbreviations

† The drying times quoted have been determined at the quoted temperature and 50% relative humidity.

Dependent upon primer/intermediate. Consult Interfine 979 Recommended Working Procedures for specific details

▲ In warmer climates (>25°C (77°F)) and / or those that have a tendency for high relative humidity (>60%), an alternative curing agent is available which will allow improved product workability. See Product Characteristics.

Regulatory Data

Flash Point	Base (Part A) 32°C (90°F)	C/A (Part B) 55°C (131°F)	Mixed 35°C (95°F)
Product Weight	1.25-1.35 kg/l (10.4-11.3 lb/gal)		
VOC	165 g/l	(1.38 lb/gal)	UK - PG6/23(92), Appendix 3
	1.44 lb/gal	(172 g/l)	USA - EPA Method 24

ECOTECH

Ecotech is an initiative by International Protective Coatings a world leader in coating technology to promote the use of environmentally sensitive products across the globe.

Interfine 979

Polysiloxane

Surface Preparation

All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:1992.

Primed Surfaces

Interfine 979 should always be applied over a recommended anti-corrosive coating scheme. The primer surface should be dry and free from all contamination, and Interfine 979 must be applied within the overcoating intervals specified (consult the relevant product data sheet).

Areas of breakdown, damage etc., should be prepared to the specified standard (e.g. Sa2½ (ISO 8501-1:1988) or SSPC SP6, Abrasive Blasting, or SSPC SP11, Power Tool Cleaning) and patch primed prior to the application of Interfine 979.

Zinc Primed Surfaces

Ensure that the surface of the primer is clean, dry and free from contamination and zinc salts before application of Interfine 979. Ensure zinc primers are fully cured before overcoating.

Application

Mixing

Material is supplied in two containers as a unit. Always mix a complete unit in the proportions supplied. Once the unit has been mixed it must be used within the working pot life specified.

(1) Agitate Base (Part A) with a power agitator.
(2) Combine entire contents of Curing Agent (Part B) with Base (Part A) and mix thoroughly with power agitator.

Mix Ratio

4 parts : 1 part by volume

Working Pot Life

5°C (41°F)	15°C (59°F)	25°C (77°F)	40°C (104°F)
3½ hours	2½ hours	2 hours	1½ hours

Note: Pot life times are applicable to both curing agent grades.

Airless Spray

Recommended

- Tip range 0.28-0.53 mm (11-21 thou)
- Total output fluid pressure at spray tip not less than 155 kg/cm^2 (2,200 p.s.i.)

Air Spray (Pressure Pot)

Recommended

Gun	DeVilbiss MBC or JGA
Air Cap	704 or 765
Fluid Tip	E

Brush

Suitable

Typically 50-75 microns (2-3 mils) can be achieved

Roller

Suitable

Typically 50-75 microns (2-3 mils) can be achieved

Thinner

International GTA007 Do not thin more than allowed by local environmental legislation.

Cleaner

International GTA007

Work Stoppages

Do not allow material to remain in hoses, gun or spray equipment. Thoroughly flush all equipment with International GTA007. Once units of paint have been mixed they should not be resealed and it is advised that after prolonged stoppages work recommences with freshly mixed units.

Clean Up

Clean all equipment immediately after use with International GTA007. It is good working practice to periodically flush out spray equipment during the course of the working day. Frequency of cleaning will depend upon amount sprayed, temperature and elapsed time, including any delays.

All surplus materials and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.

Interfine 979

Polysiloxane

Product Characteristics

The detailed Interfine 979 Recommended Working Procedures should be consulted prior to use.

Level of sheen and surface finish is dependent on application method. Avoid using a mixture of application methods whenever possible. Best results in terms of gloss and appearance will always be obtained with conventional air spray application.

When applying Interfine 979 by brush or roller, it may be necessary to apply multiple coats to achieve the total specified system dry film thickness.

This product must only be thinned using the recommended International thinners. The use of alternative thinners, particularly those containing alcohols and ketones, can severely inhibit the curing mechanism of the coating.

Pot life times must not be exceeded even though the material may be still liquid and appear useable. It is good working practice that application should commence with full unopened units of material. Due to the moisture sensitivity with partially filled units of the curing agent component, there is a danger of reaction with atmospheric moisture which could adversely affect the performance of the final coating film. This phenomena will be more prominent in the faster drying grade of curing agent where mixed product surface skinning in the container may occur more readily, particularly in warmer climates and / or those with high humidity.

Surface temperature must always be a minimum of 3°C (5°F) above dew point.

When applying Interfine 979 in confined spaces ensure adequate ventilation.

Care must be taken when applying multiple coats of Interfine 979 to ensure that a continuous wet film is applied and a minimum dry film thickness of 100 microns (4 mils) is achieved. Failure to do so may result in pinholing which will detract from ultimate appearance and performance.

Interfine 979 will cure satisfactorily at relative humidities between 40% and 85%. Curing will be slower at lower humidities and faster at higher humidities.

Condensation occurring during or immediately after application may result in a matt finish and an inferior film.

When overcoating after weathering, or ageing, ensure the coating is fully cleaned to remove all surface contamination such as oil, grease, and salt crystals, before application of a further coat of Interfine 979.

Premature exposure to ponding water will cause colour change, especially in dark colours and at low temperatures.

Absolute measured adhesion of topcoats to aged Interfine 979 is less than that to fresh material, however, it is adequate for the specified end use.

This product is not recommended for use in immersion conditions. When severe chemical or solvent splashing is likely to occur contact International Protective Coatings for information regarding suitability.

▲ Alternative Curing Agent

For improved product workability in warmer climates and / or those with high relative humidity.

	Drying Time†		Overcoating Interval with Recommended Primers & Intermediates		Overcoating Interval with Interfine 979	
Temperature	Touch Dry	Hard Dry	*Minimum*	*Maximum*[#]	*Minimum*	*Maximum*
5°C (41°F)	10 hours	24 hours	24 hours	7-28 days	24 hours	Extended*
15°C (59°F)	6 hours	12 hours	12 hours	7-28 days	12 hours	Extended*
25°C (77°F)	4 hours	8 hours	8 hours	7-28 days	8 hours	Extended*
40°C (104°F)	2 hours	6 hours	6 hours	2-28 days	6 hours	Extended*

* See International Protective Coatings Definitions & Abbreviations

† The drying times quoted have been determined at the quoted temperature and 60% relative humidity.

[#] Dependent upon primer/intermediate. Consult Interfine 979 Recommended Working Procedures for specific details

Systems Compatibility

Interfine 979 can be applied over a limited range of primers and intermediates.

Suitable primers are:

Intercure 200
Intercure 200HS
Interplus 356
Interzinc 22
Interzinc 52
Interzinc 52HS
Interzinc 315

Suitable intermediates are:

Intergard 475HS
Interseal 670HS
Interzone 505
Interzone 954

Absolute maximum overcoating intervals with Interfine 979 is dependent upon primer / intermediate. Interfine 979 Recommended Working Procedures **must** be consulted prior to use.

Interfine 979

Polysiloxane

Additional Information

Further information regarding industry standards, terms and abbreviations used in this data sheet can be found in the following sections of the International Protective Coatings data manual:

- Definitions & Abbreviations
- Surface Preparation
- Paint Application
- Theoretical & Practical Coverage
- Interfine 979 Recommended Working Procedures

Individual copies of these information sections are available upon request.

Safety Precautions

This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet, the Material Safety Data Sheet and the container(s), and should not be used without reference to the Material Safety Data Sheet (MSDS) which International Protective Coatings has provided to its customers.

All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

In the event welding or flame cutting is performed on metal coated with this product, dust and fumes will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation.

If in doubt regarding the suitability of use of this product, consult International Protective Coatings for further advice.

Pack Size	20 litre unit	Interfine 979 Base Interfine 979 Curing Agent	16 litres in a 20 litre container 4 litres in a 5 litre container
	5 gallon unit	Interfine 979 Base Interfine 979 Curing Agent	4 gallons in a 5 gallon container 1 gallon in a 1 gallon container
	For availability of other pack sizes contact International Protective Coatings		
Shipping Weight	U.N. Shipping No.	1263	
	20 litre unit	24.3 kg (53.6 lb) Base (Part A) 4.4 kg (9.7 lb) Curing Agent (Part B)	
	5 gallon unit	22.5 kg (49.7 lb) Base (Part A) 4.0 kg (8.8 lb) Curing Agent (Part B)	
Storage	Shelf Life	12 months minimum at 25°C (77°F). Subject to re-inspection thereafter. Store in dry, shaded conditions away from sources of heat and ignition.	

Disclaimer

The information given in this sheet is not intended to be exhaustive and any person using the product for any purpose other than that specifically recommended in this sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. Any warranty, if given, or specific Terms & Conditions of Sale are contained in International's Terms & Conditions of Sale, a copy of which can be obtained on request. Whilst we endeavour to ensure that all advice we give about the product (whether in this sheet or otherwise) is correct we have no control over either the quality or condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing to do so, we do not accept any liability whatsoever or howsoever arising for the performance of the product or for any loss or damage (other than death or personal injury resulting from our negligence) arising out of the use of the product. The information contained in this sheet is liable to modification from time to time in the light of experience and our policy of continuous product development.

It is the user's responsibility to check that this sheet is current prior to using the product. Issue date: 30/01/2003

Copyright © International Paint Ltd. ✕*and International are trademarks.*

International Protective Coatings

Worldwide Availability

World Centre	Asia Region	Australasia Region	Europe Region	Middle East Region	North America Region	South America Region
P.O Box 20980 Oriel House 16 Connaught Place London, W2 2ZB England	3 Neythal Road Jurong Town Singapore 628570	115 Hyde Road Yeronga Brisbane Queensland Australia	P.O Box 20980 Oriel House 16 Connaught Place London, W2 2ZB England	PO Box 37 Dammam 31411 Saudi Arabia	6001 Antoine Drive Houston Texas 77091	Av Paiva 999, Neves, Sao Gonçalo, Rio de Janeiro Brazil
Tel: (44) 20 7479 6000 Fax: (44) 20 7479 6500	Tel: (65) 663 3066 Fax: (65) 266 5287	Tel: (61) 7 3892 8888 Fax: (61) 7 3892 4287 H&S (61) 1800 807 001	Tel: (44) 20 7479 6000 Fax: (44) 20 7479 6500	Tel: (966) 3 812 1044 Fax: (966) 3 812 1169	Tel: (1) 713 682 1711 Fax: (1) 713 684 1514	Tel: (55) 21 624 7100 Fax: (55) 21 624 7123

Local Office:
Tel: 0191 469 6111 Fax: 0191 495 0676

MATERIAL SAFETY DATA SHEET

Sales Order: {SalesOrd}

INTERFINE 979 DEEP BASE

MSDS Revision No: A0 -
MSDS Revision Date: 12/13/2001

International Paint Inc.
6001 Antoine Drive
Houston, Texas 77091

EMERGENCY NUMBERS:

(800) 424-9300	CHEMTREC (USA)
(703) 527-3887	CHEMTREC (Intl)
(800) 854-6813	Poison Control Center

CUSTOMER SERVICE: (Non-Emergency)

(800) 589-1267	International Paint
(800) 631-7481	Interlux

1. GENERAL INFORMATION

Product Identity: INTERFINE 979 DEEP BASE

Bulk Sales Reference No: SYA033

IMPORTANT: Read this MSDS before handling or disposing of this product, and provide this information to the employee, customers, and users of this product. PLEASE NOTE THE MSDS REVISION NUMBER AT THE TOP OF THIS PAGE. If the MSDS Revision Number posted at the top of this page does not match the MSDS Revision Number on the product label, please contact Customer Service at the phone number included above for the correct MSDS. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard.

2. HAZARDOUS INGREDIENT INFORMATION

CAS No.	Ingredient Name & %	Source	Exposure Data
000067-63-0	Isopropyl alcohol 1.0 - 10% by Weight	OSHA:	400 ppm TWA; 980 mg/m3 TWA500 ppm STEL; 1225 mg/m3 STEL
		ACGIH:	400 ppm TWA500 ppm STEL
		NIOSH:	400 ppm TWA; 980 mg/m3 TWA500 ppm STEL; 1225 mg/m3 STEL2000 ppm IDLH
		Supplier:	No Data Available
		OHSA, CAN:	400 ppm TWAEV; 980 mg/m3 TWAEV500 ppm STEV; 1225 mg/m3 STEV
		Mexico:	400 ppm TWA; 980 mg/m3 TWA500 ppm STEL; 1225 mg/m3 STEL
		Brazil:	310 ppm; 765 mg/m3; skin absorber; medium degree of harm
		Source	**Health Data**
		NIOSH:	Mucous membrane irritation; possible carcinogenic effects
		Source	**Carcinogen Data**
		OSHA:	Select Carcinogen: Yes
		NTP:	Known Carcinogen: No; Suspected Carcinogen: No
		IARC:	Group 1: Yes; Group 2A: No; Group 2b: No; Group 3: Yes; Group 4: No

CAS No.	Ingredient Name & %	Source	Exposure Data

001344-28-1	Aluminum oxide 0.10 - 1.0% by Weight	OSHA:	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
		ACGIH:	10 mg/m3 TWA (as Al, the value is for total dust containing no asbestos and < 1% crystalline silica)
		NIOSH:	no established RELs - see Appendix D
		Supplier:	No Data Available
		OHSA, CAN:	10 mg/m3 TWAEV (total dust)
		Mexico:	10 mg/m3 TWA (total dust, nuisance particulate)
		Brazil:	No Data Available
		Source	**Health Data**
		NIOSH:	No Data Available
		Source	**Carcinogen Data**
		OSHA:	Select Carcinogen: No
		NTP:	Known Carcinogen: No; Suspected Carcinogen: No
		IARC:	Group 1: No; Group 2A: No; Group 2b: No; Group 3: No; Group 4: No

CAS No.	Ingredient Name & %	Source	Exposure Data
007631-86-9	Silica, amorphous 0.10 - 1.0% by Weight	OSHA:	No Data Available
		ACGIH:	No Data Available
		NIOSH:	6 mg/m3 TWA3000 mg/m3 IDLH
		Supplier:	No Data Available
		OHSA, CAN:	0.10 mg/m3 TWAEV (designated substance regulation)0.20 mg/m3 CEV (designated substance regulation)0.20 mg/m3 TWAEV; See Ontario Reg. 845 for full information
		Mexico:	No Data Available
		Brazil:	No Data Available
		Source	**Health Data**
		NIOSH:	No Data Available
		Source	**Carcinogen Data**
		OSHA:	Select Carcinogen: Yes
		NTP:	Known Carcinogen: Yes; Suspected Carcinogen: Yes
		IARC:	Group 1: Yes; Group 2A: No; Group 2b: No; Group 3: Yes; Group 4: No

CAS No.	Ingredient Name & %	Source	Exposure Data
007727-43-7	Barium sulfate 10 - 25% by Weight	OSHA:	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
		ACGIH:	10 mg/m3 TWA (The value is for the total dust containing no asbestos and <1% crystalline silica)
		NIOSH:	10 mg/m3 (total); 5 mg/m3 (respirable dust)
		Supplier:	No Data Available
		OHSA, CAN:	10 mg/m3 TWAEV (total dust)
		Mexico:	No Data Available
		Brazil:	No Data Available
		Source	**Health Data**
		NIOSH:	Eye nose
		Source	**Carcinogen Data**

		OSHA:	Select Carcinogen: No
		NTP:	Known Carcinogen: No; Suspected Carcinogen: No
		IARC:	Group 1: No; Group 2A: No; Group 2b: No; Group 3: No; Group 4: No

CAS No.	Ingredient Name & %	Source	Exposure Data
013048-33-4	1,6-Hexanediol diacrylate 10 - 25% by Weight	OSHA:	No Data Available
		ACGIH:	No Data Available
		NIOSH:	No Data Available
		Supplier:	No Data Available
		OHSA, CAN:	No Data Available
		Mexico:	No Data Available
		Brazil:	No Data Available
		Source	**Health Data**
		NIOSH:	No Data Available
		Source	**Carcinogen Data**
		OSHA:	Select Carcinogen: No
		NTP:	Known Carcinogen: No; Suspected Carcinogen: No
		IARC:	Group 1: No; Group 2A: No; Group 2b: No; Group 3: No; Group 4: No

CAS No.	Ingredient Name & %	Source	Exposure Data
013463-67-7	Titanium dioxide 1.0 - 10% by Weight	OSHA:	15 mg/m3 TWA (total dust)
		ACGIH:	10 mg/m3 TWA
		NIOSH:	NIOSH Potential Occupational Carcinogen - see Appendix APotential NIOSH carcinogen.
		Supplier:	No Data Available
		OHSA, CAN:	10 mg/m3 TWAEV (total dust)
		Mexico:	10 mg/m3 TWA (nuisance particulate)20 mg/m3 STEL
		Brazil:	No Data Available
		Source	**Health Data**
		NIOSH:	Lung tumors in animals
		Source	**Carcinogen Data**
		OSHA:	Select Carcinogen: No
		NTP:	Known Carcinogen: No; Suspected Carcinogen: No
		IARC:	Group 1: No; Group 2A: No; Group 2b: No; Group 3: Yes; Group 4: No

CAS No.	Ingredient Name & %	Source	Exposure Data
TS-KH5170	Urethane resin 10 - 25% by Weight	OSHA:	No Data Available
		ACGIH:	No Data Available
		NIOSH:	No Data Available
		Supplier:	No Data Available
		OHSA, CAN:	No Data Available
		Mexico:	No Data Available
		Brazil:	No Data Available
		Source	**Health Data**

NIOSH:	No Data Available

Source	Carcinogen Data
OSHA:	Select Carcinogen: No
NTP:	Known Carcinogen: No; Suspected Carcinogen: No
IARC:	Group 1: No; Group 2A: No; Group 2b: No; Group 3: No; Group 4: No

3. HAZARD IDENTIFICATION

Overview:	NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Avoid contact with eyes, skin and clothing.
Inhalation:	May be harmful or fatal if inhaled. Causes lung irritation. Causes nose and throat irritation. Vapors may affect the brain or nervous system causing dizziness, headache or nausea.
Eyes:	Causes severe eye irritation. Avoid contact with eyes.
Skin:	Causes skin irritation. May cause allergic skin reaction. May be harmful if absorbed through the skin.
Ingestion:	Harmful if swallowed. May cause abdominal pain, nausea, vomiting, diarrhea, or drowsiness.
Chronic Effects:	Contains an ingredient which can cause organ damage (See Section 2 and Section 15 for each ingredient). Birth defect hazard. Contains an ingredient which can cause birth defects (See Section 2 and Section 15 for each ingredient). Possible cancer hazard. Contains an ingredient which may cause cancer based on animal data (See Section 2 and Section 15 for each ingredient). Risk of cancer depends on duration and level of exposure.
HMIS Rating:	Health: 2 Flammability: 3 Reactivity: 0

4. FIRST AID MEASURES

General:	Remove contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean or destroy contaminated shoes.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Eyes:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
Skin:	In case of contact, immediately flush skin with soap and plenty of water. Get medical attention immediately.
Ingestion:	If swallowed, immediately contact Poison Control Center at 1-800-854-6813. DO NOT induce vomiting unless instructed to do so by medical personnel. Never give anything by mouth to an unconscious person.

5. PROTECTIVE EQUIPMENT AND CONTROL MEASURES

Respiratory:	Select equipment to provide protection from the ingredients listed in Section 2 of this document. Ensure fresh air entry during application and drying. If you experience eye watering, headache or dizziness or if air monitoring demonstrates dust, vapor, or mist levels are above applicable limits, wear an appropriate, properly fitted respirator (NIOSH approved) during and after application. Follow respirator manufacturer's directions for respirator use. FOR USERS OF 3M RESPIRATORY PROTECTION ONLY: For information and assistance on 3M occupational health and safety products, call OH&ESD Technical Service toll free in U.S.A. 1-800-243-4630, in Canada call 1-800-267-4414. Please do not contact these numbers regarding other manufacturer's respiratory protection products. 3M does not endorse the accuracy of the information contained in this Material Safety Data Sheet.
Eyes:	Avoid contact with eyes. Protective equipment should be selected to provide protection from exposure to the chemicals listed in Section 2 of this document. Depending on the site-specific conditions of use, safety glasses, chemical goggles, and/or head and face protection may be required to prevent contact. The equipment must be thoroughly cleaned, or discarded after each use.
Skin/Hand:	Protective equipment should be selected to provide protection from exposure to the chemicals listed in Section 2 of this document. Depending on the site-specific conditions of use, protective gloves, apron, boots, head and face protection may be required to prevent contact. The equipment must be thoroughly cleaned, or discarded after each use.
Engineering Controls:	Prevent build-up of vapors by opening all windows and doors to achieve cross-ventilation.
Other Work Practices:	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Wash hands before eating, drinking, using toilet facilities, etc. Promptly remove soiled clothing and wash clothing thoroughly before reuse. Shower after work using plenty of soap and water.

6. FIRE AND EXPLOSION INFORMATION

Flash Point:	F: 97 C: 36
Lower Explosive Limit (LEL):	1.5 (%vol in air) at Normal Atmospheric Temp and Pressure
Fire and Explosion Hazards:	Flammable liquid and vapor. FLAMMABLE/COMBUSTIBLE MATERIALS: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks) creating a vapor explosion hazard. Runoff to sewers may create fire or explosion hazard. Containers may explode when heated.
Fire Fighting Procedures:	CAUTION: This product has a very low flashpoint. Use of water spray when fighting fire may be inefficient. SMALL FIRES: Use dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRES: Use water spray, fog, or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do so without risk. Runoff from fire control may cause pollution. Dike fire control water for later disposal. Do not scatter the material. **Also Reference Emergency Response Guide Number:** 127

7. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
pH:	Not Determined
Specific Gravity:	1.379097
Boiling Point (F):	180
Vapor Density:	Heavier than air
VOC Content (lbs):	Refer to the Technical Data Sheet for this product
Evaporation Rate:	Slower than ether

8. STABILITY AND REACTIVITY DATA

General:	This product is stable and hazardous polymerization will not occur.
Incompatible Materials:	Strong oxidizing agents.
Hazardous Decompostion:	May produce hazardous fumes when heated to decomposition as in welding. Fumes may produce Carbon Dioxide and Carbon Monoxide.

9. HANDLING AND STORAGE

Storage Temperature:	Store between 32 and 120 F
Handling and Storage Precautions:	Keep away from heat, sparks and flame. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and other sources of ignition during use and until all vapors are gone. Vapors may cause flash fire or ignite explosively. Prevent build-up of vapors by opening all windows and doors to achieve cross-ventilation. Avoid contact with eyes, skin and clothing. Close container after each use. Wash thoroughly after handling.

10. TOXICOLOGICAL DATA

General:	NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. No additional information provided for this product. See Section 2 for chemical specific data.

11. ECOLOGICAL DATA

General:	No additional information provided for this product. See Section 2 for chemical specific data.

12. ACCIDENTAL RELEASE MEASURES

Spill Response Procedures:	ELIMINATE ALL IGNITION SOURCES (no smoking, flares, sparks or flames in immediate area). Use only non-sparking equipment to handle spilled material and absorbent. Do not touch or walk through spilled material. Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand, or other non-combustible material and transfer to containers. Use non-sparking tools to collect absorbed material.
Public Safety:	CALL CHEMTREC at (800)-424-9300 for emergency response. Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. LARGE SPILLS: Consider initial downwind evacuation for at least 300 meters (1000 feet). **Also, Reference Emergency Response Guide Number: 127**

13. DISPOSAL CONSIDERATION

Waste Disposal:	Dispose of in accordance with local, state and federal regulations. (Also reference RCRA information in Section 15 if listed).

14. TRANSPORTATION INFORMATION

DOT (Domestic Surface Transportation)		**IMO / IMDG (Ocean Transportation)**	
DOT Proper Shipping Name:		**IMDG Proper Shipping Name:**	
PAINT		PAINT	
DOT Hazard Class:	3	**IMDG Hazard Class:**	3.3 - High flashpoint flammable liquids
UN / NA Number:	UN 1263	**UN Number:**	UN 1263
DOT Packing Group:	III	**IMDG Packing Group:**	III
CERCLA/DOT RQ:	Not Applicable gal. / Not Applicable lbs.	**System Reference Code:**	2

15. REGULATORY INFORMATION

Regulatory Overview:	The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented. All ingredients of this product are listed on the TSCA (Toxic Substance Control Act) Inventory or are not required to be listed on the TSCA Inventory.
WHMIS Classification:	B2; D2B
Regulatory List	**Product Ingredients on List**
DOT Marine Pollutants (10%):	
(No Product Ingredients Listed)	
DOT Severe Marine Pollutants (1%):	
(No Product Ingredients Listed)	
EPCRA 311/312 Chemicals and RQs:	
(No Product Ingredients Listed)	
000108-65-6	Propylene glycol monomethyl ether acetate : (Includes mono- and di- ethers of ethylene glycol; diethylene glycol and triethylene glycol R-(OCH2CH2)n-OR" where n = 1 2 or 3; R = alkyl or aryl groups; R" = R h or groups which when removed yield glycol ethers with the structure R-(OCH2CH2)n-OH. Polymers are excluded from glycol category); Statutory RQ = 1 pound (.454 kg); no final RQ is being assigned to the generic or broad class
EPCRA 302 Extremely Hazardous:	
(No Product Ingredients Listed)	
EPCRA 313 Toxic Chemicals:	
001344-28-1	Aluminum oxide
007727-43-7	Barium sulfate
000067-63-0	Isopropyl alcohol
000108-65-6	Propylene glycol monomethyl ether acetate

Mass RTK Substances:

007727-43-7	Barium sulfate
000067-63-0	Isopropyl alcohol
013463-67-7	Titanium dioxide

Mass Extraordinarily Haz Substances:

(No Product Ingredients Listed)

Penn RTK Substances:

007727-43-7	Barium sulfate
000067-63-0	Isopropyl alcohol
013463-67-7	Titanium dioxide

Penn Special Hazardous Substances:

(No Product Ingredients Listed)

000067-63-0	Isopropyl alcohol

Rhode Island Hazardous Substance:

001344-28-1	Aluminum oxide
000067-63-0	Isopropyl alcohol
013463-67-7	Titanium dioxide

RCRA Status:

(No Product Ingredients Listed)

N.J. RTK Substances:

000067-63-0	Isopropyl alcohol
013463-67-7	Titanium dioxide

N.J. Special Hazardous Substances:

000067-63-0	Isopropyl alcohol

N.J. Env. Hazardous Substance

001344-28-1	Aluminum oxide
007727-43-7	Barium sulfate
000067-63-0	Isopropyl alcohol
000108-65-6	Propylene glycol monomethyl ether acetate

Proposition 65 - Carcinogens:

(No Product Ingredients Listed)

Proposition 65 - Female Reproductive Toxins:

(No Product Ingredients Listed)

Proposition 65 - Male Reproductive Toxins:

(No Product Ingredients Listed)

Proposition 65 - Developmental Toxins:

(No Product Ingredients Listed)

16. OTHER INFORMATION

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

End Of Document

MATERIAL SAFETY DATA SHEET

Sales Order: {SalesOrd}

INTERFINE 979 CONVERTER

MSDS Revision No: A0 -
MSDS Revision Date: 08/05/2003

International Paint Inc.
6001 Antoine Drive
Houston, Texas 77091

EMERGENCY NUMBERS:

(800) 424-9300	CHEMTREC (USA)
(703) 527-3887	CHEMTREC (Intl)
(800) 854-6813	Poison Control Center

CUSTOMER SERVICE: (Non-Emergency)

(800) 589-1267	International Paint
(800) 631-7481	Interlux

1. GENERAL INFORMATION

Product Identity: INTERFINE 979 CONVERTER

Bulk Sales Reference No: SYA056

IMPORTANT: Read this MSDS before handling or disposing of this product, and provide this information to the employee, customers, and users of this product. PLEASE NOTE THE MSDS REVISION NUMBER AT THE TOP OF THIS PAGE. If the MSDS Revision Number posted at the top of this page does not match the MSDS Revision Number on the product label, please contact Customer Service at the phone number included above for the correct MSDS. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard.

2. HAZARDOUS INGREDIENT INFORMATION

CAS No.	Ingredient Name & %	Source	Exposure Data
000919-30-2	Gamma-Aminopropyltriethoxysilane 50 - 75% by Weight	OSHA:	No Data Available
		ACGIH:	No Data Available
		NIOSH:	No Data Available
		Supplier:	No Data Available
		OHSA, CAN:	No Data Available
		Mexico:	No Data Available
		Brazil:	No Data Available
		Source	**Health Data**
		NIOSH:	No Data Available
		Source	**Carcinogen Data**
		OSHA:	Select Carcinogen: No
		NTP:	Known Carcinogen: No; Suspected Carcinogen: No
		IARC:	Group 1: No; Group 2A: No; Group 2b: No; Group 3: No; Group 4: No

CAS No.	Ingredient Name & %	Source	Exposure Data

001067-33-0	Dibutyltin diacetate 1.0 - 10% by Weight	OSHA:	No Data Available
		ACGIH:	No Data Available
		NIOSH:	No Data Available
		Supplier:	No Data Available
		OHSA, CAN:	No Data Available
		Mexico:	No Data Available
		Brazil:	No Data Available
		Source	**Health Data**
		NIOSH:	No Data Available
		Source	**Carcinogen Data**
		OSHA:	Select Carcinogen: No
		NTP:	Known Carcinogen: No; Suspected Carcinogen: No
		IARC:	Group 1: No; Group 2A: No; Group 2b: No; Group 3: No; Group 4: No

CAS No.	**Ingredient Name & %**	**Source**	**Exposure Data**
013822-56-5	Gamma-Aminopropyltrimethoxysilane 10 - 25% by Weight	OSHA:	No Data Available
		ACGIH:	No Data Available
		NIOSH:	No Data Available
		Supplier:	No Data Available
		OHSA, CAN:	No Data Available
		Mexico:	No Data Available
		Brazil:	No Data Available
		Source	**Health Data**
		NIOSH:	No Data Available
		Source	**Carcinogen Data**
		OSHA:	Select Carcinogen: No
		NTP:	Known Carcinogen: No; Suspected Carcinogen: No
		IARC:	Group 1: No; Group 2A: No; Group 2b: No; Group 3: No; Group 4: No

3. HAZARD IDENTIFICATION

Overview:	NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Avoid contact with eyes, skin and clothing. Overexposure may cause heart, liver and kidney damage.
Inhalation:	Harmful if inhaled. Causes nose and throat irritation. Vapors may affect the brain or nervous system causing dizziness, headache or nausea.
Eyes:	May cause blindness. Avoid contact with eyes.
Skin:	Causes skin burns. May be harmful if absorbed through the skin.
Ingestion:	May be fatal or cause blindness if swallowed. Cannot be made non-poisonous.
Chronic Effects:	Cancer hazard. Contains an ingredient which can cause cancer (See Section 2 and Section 15 for each ingredient). Risk of cancer depends on duration and level of exposure.
HMIS Rating:	Health: 3 Flammability: 2 Reactivity: 0

4. FIRST AID MEASURES

General:	Remove contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean or destroy contaminated shoes.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Eyes:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
Skin:	In case of contact, immediately flush skin with soap and plenty of water. Get medical attention immediately.
Ingestion:	If swallowed, immediately contact Poison Control Center at 1-800-854-6813. DO NOT induce vomiting unless instructed to do so by medical personnel. Never give anything by mouth to an unconscious person.

5. PROTECTIVE EQUIPMENT AND CONTROL MEASURES

Respiratory:	Select equipment to provide protection from the ingredients listed in Section 2 of this document. Ensure fresh air entry during application and drying. If you experience eye watering, headache or dizziness or if air monitoring demonstrates dust, vapor, or mist levels are above applicable limits, wear an appropriate, properly fitted respirator (NIOSH approved) during and after application. Follow respirator manufacturer's directions for respirator use. FOR USERS OF 3M RESPIRATORY PROTECTION ONLY: For information and assistance on 3M occupational health and safety products, call OH&ESD Technical Service toll free in U.S.A. 1-800-243-4630, in Canada call 1-800-267-4414. Please do not contact these numbers regarding other manufacturer's respiratory protection products. 3M does not endorse the accuracy of the information contained in this Material Safety Data Sheet.
Eyes:	Avoid contact with eyes. Protective equipment should be selected to provide protection from exposure to the chemicals listed in Section 2 of this document. Depending on the site-specific conditions of use, safety glasses, chemical goggles, and/or head and face protection may be required to prevent contact. The equipment must be thoroughly cleaned, or discarded after each use.
Skin/Hand:	Protective equipment should be selected to provide protection from exposure to the chemicals listed in Section 2 of this document. Depending on the site-specific conditions of use, protective gloves, apron, boots, head and face protection may be required to prevent contact. The equipment must be thoroughly cleaned, or discarded after each use.
Engineering Controls:	Prevent build-up of vapors by opening all windows and doors to achieve cross-ventilation.
Other Work Practices:	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Wash hands before eating, drinking, using toilet facilities, etc. Promptly remove soiled clothing and wash clothing thoroughly before reuse. Shower after work using plenty of soap and water.

6. FIRE AND EXPLOSION INFORMATION

Flash Point:	F: 134 C: 57
Lower Explosive Limit (LEL):	1 (%vol in air) at Normal Atmospheric Temp and Pressure
Fire and Explosion Hazards:	Combustible liquid and vapor. FLAMMABLE/COMBUSTIBLE MATERIALS: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks) creating a vapor explosion hazard. Runoff to sewers may create fire or explosion hazard. Containers may explode when heated.
Fire Fighting Procedures:	CAUTION: This product has a very low flashpoint. Use of water spray when fighting fire may be inefficient. SMALL FIRES: Use dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRES: Use water spray, fog, or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do so without risk. Runoff from fire control may cause pollution. Dike fire control water for later disposal. Do not scatter the material. **Also Reference Emergency Response Guide Number:** 127

7. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
pH:	Not Determined
Specific Gravity:	0.976031
Boiling Point (F):	270

Vapor Density:	Heavier than air
VOC Content (lbs):	Refer to the Technical Data Sheet for this product
Evaporation Rate:	Slower than ether

8. STABILITY AND REACTIVITY DATA

General:	This product is stable and hazardous polymerization will not occur.
Incompatible Materials:	Strong oxidizing agents.
Hazardous Decompostion:	May produce hazardous fumes when heated to decomposition as in welding. Fumes may produce Carbon Dioxide and Carbon Monoxide.

9. HANDLING AND STORAGE

Storage Temperature:	Store between 32 and 120 F
Handling and Storage Precautions:	Keep away from heat, sparks and flame. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and other sources of ignition during use and until all vapors are gone. Vapors may cause flash fire or ignite explosively. Prevent build-up of vapors by opening all windows and doors to achieve cross-ventilation. Avoid contact with eyes, skin and clothing. Close container after each use. Wash thoroughly after handling.

10. TOXICOLOGICAL DATA

General:	NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. No additional information provided for this product. See Section 2 for chemical specific data.

11. ECOLOGICAL DATA

General:	No additional information provided for this product. See Section 2 for chemical specific data.

12. ACCIDENTAL RELEASE MEASURES

Spill Response Procedures:	ELIMINATE ALL IGNITION SOURCES (no smoking, flares, sparks or flames in immediate area). Use only non-sparking equipment to handle spilled material and absorbent. Do not touch or walk through spilled material. Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand, or other non-combustible material and transfer to containers. Use non-sparking tools to collect absorbed material.
Public Safety:	CALL CHEMTREC at (800)-424-9300 for emergency response. Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. LARGE SPILLS: Consider initial downwind evacuation for at least 300 meters (1000 feet). **Also, Reference Emergency Response Guide Number: 127**

13. DISPOSAL CONSIDERATION

Waste Disposal:	Dispose of in accordance with local, state and federal regulations. (Also reference RCRA information in Section 15 if listed).

14. TRANSPORTATION INFORMATION

DOT (Domestic Surface Transportation)		IMO / IMDG (Ocean Transportation)	
DOT Proper Shipping Name: PAINT		**IMDG Proper Shipping Name:** PAINT	
DOT Hazard Class:	3	**IMDG Hazard Class:**	3.3 - High flashpoint flammable liquids
UN / NA Number:	UN 1263	**UN Number:**	UN 1263
DOT Packing Group:	III	**IMDG Packing Group:**	III
CERCLA/DOT RQ:	Not Applicable gal. / Not Applicable lbs.	**System Reference Code:**	1

15. REGULATORY INFORMATION

Regulatory Overview:	The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented. All ingredients of this product are listed on the TSCA (Toxic Substance Control Act) Inventory or are not required to be listed on the TSCA Inventory.
WHMIS Classification:	B3; D2; E
Regulatory List	**Product Ingredients on List**
DOT Marine Pollutants (10%):	
(No Product Ingredients Listed)	
DOT Severe Marine Pollutants (1%):	
(No Product Ingredients Listed)	
EPCRA 311/312 Chemicals and RQs:	
(No Product Ingredients Listed)	
EPCRA 302 Extremely Hazardous:	
(No Product Ingredients Listed)	
EPCRA 313 Toxic Chemicals:	
(No Product Ingredients Listed)	
Mass RTK Substances:	
001067-33-0	Dibutyltin diacetate
Mass Extraordinarily Haz Substances:	
(No Product Ingredients Listed)	
Penn RTK Substances:	
(No Product Ingredients Listed)	
Penn Special Hazardous Substances:	
(No Product Ingredients Listed)	
Rhode Island Hazardous Substances:	
000064-17-5	Ethyl alcohol
RCRA Status:	
(No Product Ingredients Listed)	
N.J. RTK Substances:	
(No Product Ingredients Listed)	
N.J. Special Hazardous Substances:	
(No Product Ingredients Listed)	
N.J. Env. Hazardous Substances:	
(No Product Ingredients Listed)	
Proposition 65 - Carcinogens:	
(No Product Ingredients Listed)	
Proposition 65 - Female Reproductive Toxins:	
(No Product Ingredients Listed)	
Proposition 65 - Male Reproductive Toxins:	
(No Product Ingredients Listed)	
Proposition 65 - Developmental Toxins:	
000064-17-5	Ethyl alcohol

16. OTHER INFORMATION

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

End Of Document

KIMETSAN D45-AMS PERFORMANCE AND TEST RESULTS

Resin system : Water borne two packed Color : White
Pack A (Component A) Acrylic modified Poly Urethane with oxygen activated PU true water borne
Pack B Performance Improver (Component B) (Isocyanurate FREE)

Aluminium plates treated first according to MIL-A- 8625 Type II B and the first 20-25 micrometers sprayed in 4-5 hrs after MIL-A-8625 treatment to balance thickness sprayed after 3 hours. Spraying carried out by Accuspray 24K at ultra low pressure in blowing mode with 97% spraying efficiency.

Three systems checked recently for a prime USA aircraft manufacturers (These are the most advanced Kimetsan ASTD 45 AMS systems)

SET I - KIMETSAN ASDD45 –AMS-80/86 : High Gloss (80-86 Gloss at 60°) total thicknesss 45-60 micrometers
SET II- KIMETSAN ASDD45 –AMS-30/35 Semi Gloss (30-35 Gloss at 60°) total thickness 60-75 micrometers
SET III- KIMETSAN ASDD45 –AMS-3.5/4.0 Matt (3.5-4.0 Gloss at 60°) total thickness 45-50 micrometers

The surface was degreased by using Kimetsan Decontaminator + warm Water (a biodegradeble detergent – pH c.a. 8.0. Safe for aluminium and aluminium alloys) . After that the surface is rinsed with tap water only. This is all required for the surface preperation.

Extra test carried out for PVC,Kevlar, composites, galvanised steel plates as well
Unless specified tets plates are

Aluminium plates	**: AA2024T3 cladded aluminium with thickness of 0.020 inch (0.51mm)**
PVC, Kevlar and Window glass	**: c.a. 2mm thickness**
Reinforced Composites	**: 2 mm thickness (both epoxy and polyester types)**
Galvanised steel	**: 0.51mm**

Surface preperation and paint stripping are different than MIL-F-85285D suggested methods . Kimetsan system offers a complete package and none of the steps contain toxic or resricted chemicals or corrosive chemicals. Resin system is also different than MIL-F-85285D class W and it is much safer and much lower VOC level and much lighter in weight. The component A and component B have two years shelf lifes. When Comp A and 6% Comp B(performance improver) mixed together ,the mixture can be used within 8 hrs . After 8 hrs , the same procedure of mixing can be carried out 2 times by adding 6% Comp B to Comp A without any problem. The component A may be used alone for less demanding performances. The mixture does not solidified unless thin film formed.

All sets passed the below given tests . All sets also passed ASTM D-1308 (50% Ethyl alcohol, 20% Acetic acid, 10% Sodium Hydroxide ,10 % Hydrochloric acid, 10% Sulphuric Acid, 10 % mild Soap Solution, 10% Mild detergent solutions , Lithium Grease, Calcium Grease , Organic Solvents (pentane, hexane, MEK, methanol , toluene etc) , Oils and Fat (margarine) ,Fruit Juices (Pears, apple, appricot, pineapple) . However, if superior chemicals resistance at high concentrations and high temperature is required and the gloss is not important we recommend SET III .

All sets have antigraffiti properties . For most applications ,the surface can be cleaned by cold water only.

WEATHERING	No change, blistering or peeling	Xenon Arc ASTM G-26 1000
	SALT spray 1000	ASTM G155-00
	QUV Accelerated Wheathering 1000 hrs.: Very good	
ADHESION	Rating : 5 B Taping : Cross-hatch method	ASTM D-3359-92A
	Additional Special Tests Performed On Aluminium Foils Rating : 5B On PVC Plates Rating : 5B On Glass Plates Rating : 5B On Galvanized Steel Plates Rating : 5B On Kevlar Plates Rating : 5B On Composite Plates Rating : 5B	

HOT/COLD CYCLING	10 Hot and Cold Cycles (-55 ºC to +60 ºC) at 100 % relative humidity. No cracking, blistering, or peeling	ASTM D-2246
	Tests also carried out for continuous working performaces at –70 °C and + 200 °C at 80 %RH No cracking ,blistring , peeling No performance failure observed	Field Tests for 2 years
CORROSION RESISTANCE	No blisters, no peeling 1000 hrs	ASTM B-117-02
IMPACT TEST	15 joules impact, no cracking or peeling	ASTM G14-88
ABRASION RESISTANCE	Taber abraser, 1000 g. load, CS-17 wheels, 100 cycles, Avg. Loss 0.017g.	ASTM D-4060
BENDING TEST	Up to 1mm. mandrel Both Cylindrical and conical mandrels Method A and B No cracking or peeling	ASTM D-522-93-A
	Addition tests for bending and flexibility: Tests also carried out on Aluminium Foils for spiral bending, twisting tests carried for 2000 times. No effects observed. Bending tests performed at –55°C and +100 °C and room temperatures.	
WATER VAPOR TRANSMISSION	5.37*10.7g./Pa*s*m^2 Perm rating : 9.4	ASTM E-96
WATER PENETRATION	800mm. water column No penetration after 4 hours	ASTM D-751-38
V.O.C. EMISSIONS	Clear Coat less than 190 g/Litre	ASTM D-3980 ASTM D50 87-91
	Colored Form Less than 150 g/litre	
ACCELERATED CORROSION WEATHERING	Hanau sun testing U.V./Salt-spray/Wet&Dry Very good	NATLAS CAA DOE
HOSPITAL HEALTH APPLICATIONS	Operating theatres and intensive Care units, Prematurated babies room	Turkish Min of Health Recommended for all hospital areas

RESISTANCE TO HYDRAULICS IMMERSIONS (Conforming MIL-PRF- 83282)	No effect	30 Hrs immerison at 65 °C
	Additional tests: SKYDROL 500B4 and LD4 And all portion mixtures Very Good /No effect	30 Days immersion at 25°C and 30 Hrs immersion at 65 °C
LUBRICATING OIL (conforming MIL-L-23699)	No effect	30 hrs immersion at 122 °C
Additional Tests		
RESISTANCE TO MINERAL OILS IMMERSION	Elf Perf XL20W50 and Shell Helix 15W50 Very good / No effect	**30** Hours immersion at 122 °C
RESISTANCE TO De-IONIZED WATER IMMERSION	De-Ionized and distilled water Very good / No effect	3 Days immersion every day first 10 hrs at 80 °C and 14 hrs at 25°C
RESISTANCE TO DE-IONIZED WATER IMMERSION	De-Ionized and distilled water Very good / No effect	30 Days immersion at room temperature
RESISTANCE TO 6% SODIUM CHLORIDE IMMERSION	6% NaCl in De-Ionized and distilled water (tests carried out on crossed and plain plates Very good / No effect	1000 hrs immersion at room temperature
RESISTANCE TO JET FUELS IMMERSION	Jet Fuels A1 , A4 Very good /No effect	7 Days immersion at room temperature
RESISTANCE TO JET FUELS IMMERSION	Jet Fuel JP-5 (Conforming MIL-DTL-5624) Very good/ No effect	7 Days immersion at room temperature
RESISTANCE TO	De-Icers Glycol based	

DE-ICERS IMMERSION	Very good / No effect	7 Days immersion at room temperature
RESISTANCE TO ATMOSPHERIC & ACID POLLUTANTS	Acetic Acid 10% vol. Hydrochloric acid 5% vol. Sulfuric acid 5% vol. No effect	ASTM D-1308 -87 (with addition of sulfuric acid testing)
FLASH POINT	Non-flammable / True water Borne	
FIRE RESISTANCE	When applied to material Class 0 or Class 1, will not loose	BS 476 Part 6 or part 7,
SCRATCH RESISTANCE	150/R-1518 SIS No 839117 Bearing Pressure 8/12/20N-5 30N-4	
General properties:		
ELECTRICAL TRANSMISSION AND BORESIGHT LIMITS ON AIRCRAFT RADOMS	TR_{Min} = 75% TR_{AVE} = 90% BR_{ERR} = ±4MR Passed all tests	Tested according to (Tech. Order No 1-1-24 Turkish Airforce) Radoms (Approved for usage by the Turkish Airforce
Lead ,Cadmium,Cobalt Chromium,Mercury,Arsenic content	Not Dedectable	ICP and AAS
Strippability	Kimetsan Non Toxic Stripper Contains no toxic or resricted chemicals Applicable by brush or spraying	At room temperature within 2 hrs /completed. Cleaned or rinsed with Water only
Temperature Resistance and Paint Oxidising	No Noticable Effect up to 250 °C	Monitored by TGA and DSC measurement (tested by Roketsan Inc and SAGE –Defence Industries Research Institute)

Kimetsan Quality Control Management

KIMETSAN AEROSPACE WATER BORNE COATINGS COMPONENT A

MATERIAL SAFETY DATA SHEET

Date of issue : 15.06.2000
Date of revision : 20.01.2003
-

1.CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name : ***KIMETSAN D45+MODIFIED AEROSPACE WATER BORNE COATING COMPONENT A Colored and Clear coats***

Chemical or technical name :*Acrylic modified polyurethane combined with oxygen Activated polyurethane WB resin based aerospace coatings. Colored and clear coats*

Manufacturer : ***KIMETSAN LTD.***
Water Borne Industrial Paints Div.
Sehit Adem Yavuz Sokak No 11/5
Kizilay / ANKARA /TURKEY

Emergency Phone Number : *0090.312.418 23 91*

Packing and Size : *1/5/10/30 kg plastic bottles / drums*

Uses : *Aerospace coatings (interior and exterior)*

Phone : 00 90 312 417 49 77 *Fax : 00 90 312 418 56 17*

2.COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT NAME	***CASnr***	***Weight %***	***Danger Symbol***	***OEL***
Adipates Esters	*Mixture*	*<4. 0*	*-*	*S24*
N-Methyl-2-Pyrrozolidone	*872-50-4*	*<1.5*	*Xi*	*R36/38, S41*
*Oxygen Activated PU resin **	*N/A*	*< 4.0*	*Xi*	*R36/38,S36*
*Acrylic co-polymer **	*N/A*	*<4.0*	*Xi*	*R36/38,S36*
*Acry modified PU resin**	*N/A*	*<75.0*	*Xi*	*R36/38,S36*

Contains less than 15 ppm preservatives as Chloro Methyl Isothiazoline (CAS # 26172-55-4) and Methyl Isothiazoline (CAS # 2682-20-4) both products are biodegredible.

** All products will be less irritant in formulation with water (Total water content > 10 %). These materials have very strong powers of adhesions.*

As the manufacture operates under Responsible Care Commitments, The main NON HAZARDOUS products are also given for records : (Concentration more than 0.7 %) Zinc Molybdate (CAS13767-32-3), Titanium Dioxide (CAS # 13463-67-7), Ethylene diglycol (CAS # 111-90-0), Diethylene glycol (CAS # 111-46-6), Water (CAS # 7732-18-5),

Polyethylene wax (CAS # 9002-88-4), Acryclic-PU modified Copolymer with oxygen activated PU with non toxic pigments to make desired color standard.

3.HAZARD IDENTIFICATION

Health Hazards : The product is not classified as dangerous to health.
Biological danger : The product is not judged as harmful to the environment.
Danger of fire : The product is not flammable.
Physical-chemical hazards : None Known.

4.FIRST AID IDENTIFICATION

Inhalation : Fresh air and rest.
Skin : Wash the skin with soap and water.
Eye : Rinse for a long time with soft water jet, separate eyelids.
Ingestion : Drink some water. When necessary seek medical advice.

5.FIRE FIGHTING MEASURES

In case of fire situation use water, foam, powder or carbon dioxide.
This product is not flammable.

6.ACCIDENTAL RELEASE MEASURES

Precautions : Not required
Environmental : Prevent discharging to sewage disposal system, protection water course or earth.
Methods for cleaning up : Absorb with saw dust, cloths, sand or other absorbing agent. Keep in suitable plastic container. Wipe up and rinse with water (see point 13). Spillage can be difficult to remove if the product is allowed to dry.

7.HANDLING AND STORAGE

Handling : By handling the product, always maintain a good working hygiene. Very strong WB adhesive characters

Storage : Do not allow to freeze.
Packing material/storage : Keep in plastic, glass or rustless material containers.

8.EXPOSURE CONTROL/PERSONAL PROTECTION

The product contains small amounts of volatile organic substances (see composition/information on ingredients). Do not work in extremely limited or badly ventilated areas, this may cause dizziness, indisposition and headache. Always work in well ventilated areas.
Protective Clothing : Overall covering body, arms and legs, rubber gloves.
Inhilation : During spraying wear respiratory mask
Eyes : During spraying wear gogles.

9.PHYSICAL AND CHEMICAL PROPERTIES

Appearance	*: White fluent liquid with a scent perfume for clear coat Colored form will be at specified color.*
Boiling Point	*: ca 100°C Flash point: None*
Density	*:1070-1300kg/m^3 pH : ca 8.0-9,5*
Solubility in water	*: Dilutable*
VOC	*: < 190 g/liter for clear coat < 150 g/liter for colored form*
Evaporation Rate	*: N/A*

10.STABILITY AND REACTIVITY

Stability	*: Stable*
Hazards reactions	*: None known*
Hazardous	*: No special decomposition products*

11.TOXICOLOGICAL INFORMATION

Inhalation	*: The product gives off volatile organic vapours. See point 8.*
Skin	*: Repeated skin contact may possibly cause irritation.*
Eye	*: Splash in the eyes may cause irritation*
Ingestion	*: Consumption may possibly cause indisposition.*

12.ECOLOGICAL INFORMATION

The product is not judged as harmful to the environment, based upon available information and prevailing criteria.

13.DISPOSAL CONSIDERATION

Residues of product and contaminated packing:
Dried product can be treated as normal industrial waste.
Handling of large quantities or cassation of liquid product, consult the local public cleansing department.

14.TRANSPORT INFORMATION

No dangerous goods. ***This product is not subjected to International Transport Regulations****.*

15.PRODUCT REGULATORY INFORMATION

Classification	*: No classification required*
EEC Symbol	*: -*
Risk (R) and Safety (S)	*: only very small amount of ingredients have R36/38 S 24/36 phrases*
Risk Phrases	*: R 36/38 Irritating to the skin and eyes*
Safety Phrases	*: S24 avoid skin contact S36 wear suitable protective clothing*
Inflammable	*: No*

These R and S phrases are much reduced when in water formulations. Comply with the

Regulations as the material has very strong powers of adhesion.

16.OTHER INFORMATION

This product should be stored, handled and used in accordance with good industrial hygiene pratices and confirmity with any legal regulations. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties

KIMETSAN AEROSPACE WATER BORNE COATINGS COMPONENT B

MATERIAL SAFETY DATA SHEET

Date of issue : 15.06.2000
Date of revision : 20.01.2003

1.CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name : ***KIMETSAN AIRCRAFT WATER BORNE COATINGS COMPONENT B***

Chemical or technical name :*Component B for KIMETSAN AEROSPACE COMPONENT A*

Usage : *Activator and chemical resistance improver forf KIMETSAN Aerospace Water Borne Paints Component A .*
Do not exceed a maximum ratio 1/10

Manufacturer/Supplier : ***KIMETSAN LTD***
Water Borne Industrial Paints Div.
Sehit Adem Yavuz Sokak No 11/5
Kizilay / ANKARA /TURKEY
Phone : 00 90 312 417 49 77 pbx *Fax : 00 90 312 418 56 17*

2.COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT NAME *	***CAS nr***	***Weight %***	***Danger Symbol***	***OEL***
Dimethyl Glutarate	*1119-40-0*	*< 25%*	*-*	*-*
Dimethyl Adipate	*627-93-0*	*< 15%*	*-*	*S24*
Dimethyl Succinate	*106-65-0*	*< 25%*	*-*	*-*
*Self Activated PU resin ***	*-*	*< 8%*	*Xi*	*R36/38, S 36*

*** This ingredient is less irritant whendiluted with water*

THIS PRODUCT CONTAINS NO TOXIC OR HARMFUL CHEMICALS

***** As the manufacturer operates under Responsible Care Commitments , main components are given for information only although they are NON Hazardous products***

3.HAZARD IDENTIFICATION

Health Hazards	*: The product is not classified as a primary irritant but contact continuously with skin may cause irritation.*
Eye	*: Eye irritant*
Skin	*:May cause sensitization by skin contact*
Inhalation	*:In case of fire do not breathe fumes*
Ingestion	*: Remove from exposure . Induce vomiting. Obtain medical advice*
Biological danger	*: The product is not judged as harmful to the environment.*
Danger of fire	*: The product is not inflammable .*
Stability	*: Stable*
Hazardous Polymerisation	*: May occur if mixed with acidic materials*
Reactivitiy with water	*: Will not occur*

Hazardous decomposition products: Usual products of combustion. e.g. carbon dioxide and carbon monoxide.

Materials to be Avoided	*: Acidic materials, anhydrides and strong oxidisers*

4.FIRST AID IDENTIFICATION

General First Aid Procedures

Inhalation	*: Remove the person to fresh air and rest. Ask medical advise.*
Skin	*: Wash the skin with plenty of soap and water. Wash contaminated clothing and decontaminate footwear before re-use.*
Eye	*: Immediately flush the eyes with plenty of running water For inimum of 15 minutes. Obtain medical care as soon as possible. If no medical attention is available rinse the eye and lid for extra 15 minutes.*
Ingestion	*: Remove from exposure . Induce vomiting. When necessary seek medical advice.*

5.FIRE FIGHTING MEASURES

In case of fire situation use water fog , foam, dry chemical, carbon dioxide . Water may be used to cool closed containers to prevent pressure buildup.
This product is not flammable but combustable. Flush point is over 110° C

6.ACCIDENTAL RELEASE MEASURES

Precautions	*: Avoid inhalation vapor . Avoid contact with skin.*
Environmental	*: Prevent discharging to sewage disposal system, protection water course or earth.*
Methods for cleaning up	*: Wear skin, eye, and respiratory protection during cleaning. Absorb with saw dust, cloths, sand or other absorbing agent. Alternatively flush with water and react wit 10% Ammonium Thiosulphate or Sodium Thiosulphate. Then flush with water.*

7.HANDLING AND STORAGE

Handling	*: Use nitrile or butyl rubber gloves Use chemical goggles or splash shield*
Storage	*: Do not allow to freeze. Do not store at above 60°C Keep away from heat, acid and oxidands*
Packing material/storage	*: Keep in plastic, glass or rustless material containers. Do not use fiberglass containers*

8.EXPOSURE CONTROL/PERSONAL PROTECTION

No ACGIH TLV or OSHA PEL assigned to this product.
The product contains small amounts of volatile organic substances (see composition/information on ingredients). Do not work in extremely limited or badly ventilated areas. Always work in well ventilated areas.

Respiratory protection	*: If needed , use NIOSH certified respirators for organic vapors , mists and fumes.*
Protective Clothing	*: Take all precautions to prevent skin contact. Additional protection , such as full body suit and boots, may be required depending on the conditions.*
	Remove contaminated clothing and wash before re-wearing. Wash separately from other laundry.

Eye Protection *: Chemical tight goggles and full face shield*

9.PHYSICAL AND CHEMICAL PROPERTIES

Appearance	*: Pale yellow liquid.*
Flash point	*: > 100 °C (TTC)*
Density	*: 1100-1200kg/m^3*
pH	*: 6 - 7*
Viscosity (Ford Cup #4)	*: min 20 sec*
Solubility in water	*: Miscible*
Evaporation Rate	*: N/A*

10.STABILITY AND REACTIVITY

Stability *: Stable*
Hazardous Polymerisation: Will not occur.
Hazardous Decomp. Products *: Carbon and nitrogen oxides.*

Contamination with acidic materials, heat, UV radiation, anhydrides, strong oxidazing conditions and freezing conditions must be avoided.

11.TOXICOLOGICAL INFORMATION

Inhalation *: High vapour concentration may be irritant to the respiratory organs.*

Skin *: Repeated skin contact may possibly cause irritation.*

Eye *: Splash in the eyes may cause irritation.*

Ingestion *:Low oral toxicity but because the stomach acid may cause gastro-intestinal irritation. Refer also to Section 3.*

This product contains NO components listed by IARC, OSHA, NTP or ACGIH as a carcinogen.
.

12.ECOLOGICAL INFORMATION

The product is not judged as harmful to the environment, based upon available information and prevailing criteria.

13.DISPOSAL CONSIDERATION

Waste Disposal :

Dispose or incinirate in approved landfill . Dispose it as aqueous waste after reaction with ammonium thiosulphate or sodium thiosulphate with approval of local,state or federal organisation.

When handling large quantities consult the local environment authorities or cleansing company.

14.TRANSPORT INFORMATION

Not dangerous goods. This product is not regulated by U.S. DOT .

15.REGULATORY INFORMATION

Classification	*: Irritant Xi*
Risk Phrases	*R36/38 irritating to skin and eyes*
Safety Phrases	*S24 Avoid contact with skins* *S36 Wear suitable protective coating*

16.OTHER INFORMATION

This product should be stored, handled and used in accordance with good industrial hygiene practices and conformity with any legal regulations. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the safety requirements. It should be therefore be construed as guaranteeing specific properties.

Industrial & Marine Coatings

EXPRESSTECH™ Coatings Technology for improved productivity.

1.28

FAST CLAD® HB ACRYLIC

B66-410 SERIES

PRODUCT INFORMATION

Revised 4/05

PRODUCT DESCRIPTION

Fast Clad HB Acrylic is a one component, fast dry, high build finish designed for one coat application directly to organic or inorganic zinc-rich primers or other recommended primers. May also be applied directly to prepared steel.

- High film build in one coat
- Superior gloss and color retention
- Fast Dry
- Outstanding early moisture resistance
- Chemical resistant
- Low odor
- Corrosion resistant
- Suitable for use in USDA inspected facilities

RECOMMENDED USES

For use over prepared:

- Organic zinc rich primers
- Inorganic zinc rich primers
- Aluminum
- Primed Steel
- Galvanizing
- Masonry
- Concrete
- Wood
- Drywall

Examples:

- Buildings
- Machinery
- Power plants
- Select Marine Structures
- Stadiums
- Equipment
- Piping
- Structural Steel
- New Construction
- Storage Tank Exteriors
- Water treatment plants

Conforms to AWWA D102-03 OCS #3

Acceptable for use in high performance architectural applications.

PRODUCT CHARACTERISTICS

Finish: Semi-Gloss

Color: Wide range of colors available

Volume Solids: 41.5% ± 2%, may vary by color
Extra White

Weight Solids: 52.3% ± 2%, may vary by color
Extra White

VOC (EPA Method 24): <200 g/L; 1.66 lb/gal
Extra White

Recommended Spreading Rate per coat:

Wet mils:	12.0 - 19.0
Dry mils:	5.0 - 8.0
Coverage:	85 - 136 sq ft/gal approximate

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 12.0 mils wet 50% RH:

	@ 40°F	@ 77°F	@ 110°F
To touch:	8 hours	1 hour	15 minutes
Tack free:	24 hours	5 hours	1 hour
To recoat:	24 hours	5 hours	1 hour
To cure:	30 days	30 days	30 days

Drying time is temperature, humidity, and film thickness dependent.

Shelf Life: 36 months, unopened
Store indoors at 40°F to 100°F.

Flash Point: >200°F, Seta

Reducer/Clean Up: Water

PERFORMANCE CHARACTERISTICS

System Tested: (unless otherwise indicated)
Substrate: Steel
Surface Preparation: SSPC-SP10
1 ct. Zinc Clad II HS @ 5.0 mils dft
1 ct. Fast Clad HB Acrylic @ 8 mils dft

Abrasion Resistance:
Method: ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load
Result: <158 mg loss

Adhesion:
Method: ASTM D4541
Result: 482 psi

Corrosion Weathering:
Method: ASTM D5894, 6 cycles, 2,016 hours
Result: Rating 10 per ASTM D714 for blistering
Rating 10 per ASTM D610 for rusting

Impact Resistance:
Method: ASTM D2794
Result: >160 in. lbs, direct and indirect

Dry Heat Resistance:
Method: ASTM D2485
Result: 200°F

Exterior Durability:
Method: 1 year, 45° South
Result: Excellent

Flexibility:
Method: ASTM D522, 180° bend, 1/8" mandrel
Result: Passes

Moisture Condensation Resistance:
Method: ASTM D4585, 100°F, 1000 hours
Result: Passes

Pencil Hardness:
Method: ASTM D3363
Result: 6B

Salt Fog Resistance:
Method: ASTM B117, 2000 hours
Result: Rating 10 per ASTM D714 for blistering
Rating 10 per ASTM D610 for rusting

continued on back

Industrial & Marine Coatings

EXPRESSTECH™
Coatings technology for improved productivity.

1.28

FAST CLAD® HB ACRYLIC

B66-410 SERIES

PRODUCT INFORMATION

RECOMMENDED SYSTEMS

Steel:
1 ct. Zinc Clad II Plus @ 3.0 - 5.0 mils dft
1 ct. Fast Clad HB Acrylic @ 5.0 - 8.0 mils dft

Steel:
1 ct. Zinc Clad III HS @ 5.0 mils dft
1 ct. Fast Clad HB Acrylic @ 5.0 - 8.0 mils dft

Other acceptable zinc-rich primers:
Zinc Clad II
Zinc Clad VI
Zinc Clad XI
Fast Clad Zinc HS
Corothane I - GalvaPac Zinc

Steel:
1 ct. DTM Acrylic Primer/Finish @ 2.5 - 5.0 mils dft
or Kem Bond HS @ 2.0 - 5.0 mils dft
or ProCryl Primer @ 2.0 - 4.0 mils dft
1 ct. Fast Clad HB Acrylic @ 5.0 - 8.0 mils dft

Steel:
1 ct. Fast Clad HB Acrylic @ 5.0 - 8.0 mils dft

Aluminum:
1 ct. Fast Clad HB Acrylic @ 5.0 - 8.0 mils dft

Aluminum:
1 ct. DTM Wash Primer, @ 0.7 - 1.3 mils dft
1 ct. Fast Clad HB Acrylic @ 5.0 - 8.0 mils dft

Galvanizing:
1 ct. Fast Clad HB Acrylic @ 5.0 - 8.0 mils dft

Concrete Block:
1 ct. Heavy Duty Block Filler @ 10.0 - 18.0 mils dft
1 ct. Fast Clad HB Acrylic @ 5.0 - 8.0 mils dft

Concrete/Masonry:
1 ct. Fast Clad HB Acrylic @ 5.0 - 8.0 mils dft

Drywall:
1 ct. PrepRite 200 Latex Primer @ 1.0 - 1.5 mils dft
1 ct. Fast Clad HB Acrylic @ 5.0 - 8.0 mils dft

Prefinished Siding: (Baked-on finishes)
1 ct. DTM Bonding Primer @ 2.0 - 5.0 mils dft
1 ct. Fast Clad HB Acrylic @ 5.0 - 8.0 mils dft

Wood, exterior:
1 ct. A-100 Exterior Oil Wood Primer @ 1.5 mils dft
1 ct. Fast Clad HB Acrylic @ 5.0 - 8.0 mils dft

Wood, interior:
1 ct. PrepRite Wall & Wood Primer @ 1.5 mils dft
1 ct. Fast Clad HB Acrylic @ 5.0 - 8.0 mils dft

The systems listed above are representative of the product's use, other systems may be appropriate.

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Do not use hydrocarbon solvents for cleaning.

Refer to product Application Bulletin for detailed surface preparation information.

Minimum recommended surface preparation:

Iron & Steel:	SSPC-SP2
Aluminum:	SSPC-SP1
Galvanizing:	SSPC-SP1
Concrete & Masonry:	SSPC-SP13/NACE 6 or ICRI 03732, CSP 1-3

TINTING

Tint with EnviroToner at 100% tint strength. Five minutes minimum mixing on a mechanical shaker is required for complete mixing of color.

Do not use Blend-A-Color Toners.

APPLICATION CONDITIONS

Temperature:	40°F minimum, 110°F maximum (air, surface, and material)
	At least 5°F above dew point
Relative humidity:	85% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:	1 and 5 gallon containers
Weight per gallon:	10.0 ± 0.2 lb, may vary by color

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

DISCLAIMER

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.

WARRANTY

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

THE SHERWIN-WILLIAMS COMPANY

INDUSTRIAL & MARINE COATINGS

Industrial and Marine Coatings

EnviroSpec™

FAST CLAD® HB ACRYLIC

B66-410 SERIES

APPLICATION BULLETIN

Revised 1/03

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Do not use hydrocarbon solvents for cleaning.

Iron & Steel
Minimum surface preparation is Hand Tool Clean per SSPC-SP2. Remove all oil and grease from surface by Steam Cleaning per SSPC-SP1. For better performance, use Commercial Blast Cleaning per SSPC-SP6.

Aluminum
Remove all oil and grease by Steam Cleaning per SSPC-SP1. Self-priming.

Galvanizing
The surface should be weathered for 6 months prior to painting. Remove all oil and grease by Steam Cleaning per SSPC-SP1. Self-priming.

Concrete and Masonry
For surface preparation, refer to SSPC-SP13/NACE 6. Surfaces should be thoroughly cleaned and dry. Surface temperatures must be at least 55°F before filling. Use Heavy Duty Block Filler. Filler must be thoroughly dry before topcoating per manufacturer's recommendations.

Wood
Surface must be clean, dry and sound. Prime with recommended primer. No painting should be done immediately after a rain or during foggy weather. Knots and pitch streaks must be scraped, sanded and spot primed before full coat of primer is applied. All nail holes or small openings must be properly caulked.

Previously Painted Surfaces
If in sound condition, clean the surface of all foreign material. Smooth, hard or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, additional abrasion of the surface and/or removal of the previous coating may be necessary. Retest surface for adhesion. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above.

APPLICATION CONDITIONS

Temperature:	40°F minimum, 110°F maximum (air, surface, and material) At least 5°F above dew point
Relative humidity:	85% maximum

APPLICATION EQUIPMENT

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compatible with existing environmental and application conditions.

Reducer/Clean Up ..... Water

Airless Spray
- Pressure ..... 3000 psi
- Hose ..... 1/4" ID
- Tip ..... .015" - .019"
- Filter ..... 60 mesh
- Reduction ..... Not recommended

Conventional Spray
- Gun ..... Binks 95
- Fluid Nozzle 63C
- Air Nozzle 63PB
- Atomization Pressure ... 50 psi
- Fluid Pressure ..... 15-20 psi
- Reduction ..... As needed up to 10% by volume

Brush
- Brush ..... Nylon / polyester
- Reduction ..... Not recommended

Roller
- Cover ..... 3/8" woven with phenolic core
- Reduction ..... Not recommended

If specific application equipment is listed above, equivalent equipment may be substituted.

continued on back

THE SHERWIN-WILLIAMS COMPANY

INDUSTRIAL & MARINE COATINGS

Industrial and Marine Coatings

EnviroSpec™

FAST CLAD® HB ACRYLIC

B66-410 SERIES

APPLICATION BULLETIN

APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mixing Instructions: Mix paint thoroughly by boxing and stirring before use.

Apply paint at the recommended film thickness and spreading rate as indicated below:

Recommended Spreading Rate per coat:

Wet mils:	12.0 - 19.0
Dry mils:	5.0 - 8.0
Coverage:	85 - 136 sq ft/gal approximate

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 12.0 mils wet 50% RH:

	@ 40°F	@ 77°F	@ 110°F
To touch:	8 hours	1 hour	15 minutes
Tack free:	24 hours	5 hours	1 hour
To recoat:	24 hours	5 hours	1 hour
To cure:	30 days	30 days	30 days

Drying time is temperature, humidity, and film thickness dependent.

Application of coating above maximum or below minimum recommended spreading rate may adversely affect coating performance.

PERFORMANCE TIPS

Stripe coat all crevices, welds, and sharp angles to prevent early failure in these areas.

When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross spray at a right angle

During the early stages of drying, the coating is sensitive to rain, dew, high humidity, and moisture condensation. If possible, plan painting schedules to avoid these influences during the first 16-24 hours of curing.

Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness or porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, overthinning, climatic conditions, and excessive film build.

Excessive reduction of material can affect film build, appearance, and adhesion.

Application temperature above 95°F may cause dry spray, uneven sheen, and poor adhesion.

Fast Clad HB Acrylic is extremely sensitive to hydrocarbon containing solvents. When cleaning the surface per SSPC-SP1, use only an emulsifying industrial detergent followed by a water rinse.

Do not use hydrocarbon solvents for cleaning.

Refer to Product Information sheet for additional performance characteristics and properties.

CLEAN UP INSTRUCTIONS

Clean spills and spatters immediately with soap and warm water. Clean hands and tools immediately after use with soap and warm water. After cleaning, flush spray equipment with Mineral Spirits to prevent rusting of the equipment. Follow manufacturer's safety recommendations when using Mineral Spirits.
NOTE: If coating is allowed to "set-up", Reducer #54, R7K54, may be required for cleaning. Follow manufacturer's safety recommendations when using Reducer #54.

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

ENVIRONMENTAL DATA SHEET
(Certified Product Data Sheet)

02 00 [3481]

THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115
02-FEB-04

This document includes all data required by 40 CFR 63.801(a) for a Certified Product Data Sheet under criteria specified in 40 CFR 63.805(a)
All data given below are MAXIMUM THEORETICAL VALUES based on the product AS CURRENTLY FORMULATED. Variations may occur on individual batches due to adjustments made during production.

* Trade Mark

PRODUCT NUMBER
366W411

PRODUCT NAME
FAST-CLAD* HB Acrylic, Extra White

PRODUCT WEIGHT	SPECIFIC GRAVITY	FLASH POINT
10.00 lb/gal	1.20	N.A.

HAZARD CATEGORY (for SARA 311/312)
Acute

	SARA 302 EHS	CERC.	SARA 313 TC	HAPS 112	Pct by Wt	Pct by Vol
VOLATILE INGREDIENTS						
1-(2-Butoxymethylethoxy)-propanol 29911-28-2	N	N	N	N	3	3
2-(2-Butoxyethoxy)-ethanol 112-34-5	N	N	***	***	3	3
Propylene Glycol 57-55-6	N	N	N	N	1	2
Water 7732-18-5	N	N	N	N	41	50
REGULATED COMPOUNDS						
*** Glycol Ethers	N	N	Y	Y	3	

Continued on page 2

VOLATILE ORGANIC COMPOUNDS (follows U.S. EPA VOC Data Sheet)

A.	Coating Density	10.00 lb/gal	1198 g/l
B.	Total Volatiles	47.7 % by wt.	58.7 % by vol.
	Non organic volatiles: Ammonia	0.2 % by wt.	0.3 % by vol.
C.	Federally exempt solvents: Water	40.7 % by wt.	49.8 % by vol.
D.	Organic Volatiles	6.7 % by wt.	8.5 % by vol.
E.	Percent Non-Volatile	52.3 % by wt.	41.3 % by vol.
F.	VOC Content 0.67 lb/gal	80 g/l	total
	1. 1.34 lb/gal	161 g/l	less exempt solvents
	2. 1.63 lb/gal	195 g/l	solids
	0.12 lb/lb	0.12 kg/kg	solids

HAZARDOUS AIR POLLUTANTS (Clean Air Act, Section 112(b))

Volatile HAPS Pounds per Gallon	0.25 lbs/gal
Volatile HAPS Pounds per Gallon of Solids	0.61 lbs/gal
Volatile HAPS Pounds per Pound of Solids	0.04 lbs/lb

AIR QUALITY DATA

Density of Organic Solvent Blend	7.92 lbs/gal
Photochemically Reactive	NO
Maximum Incremental Reactivity (MIR) (per California Air Resources Board Method 310 proposed amendments for aerosol products)	0.18

WASTE DISPOSAL

Waste from this product is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Addition of reducers or other additives to this product may substantially alter the above data. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

MATERIAL SAFETY DATA SHEET

B66W411
03 00

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

B66W411

HMIS CODES

Health	2
Flammability	0
Reactivity	0

PRODUCT NAME

FAST-CLAD* HB Acrylic, Extra White

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

EMERGENCY TELEPHONE NO.

(216) 566-2917

DATE OF PREPARATION

29-MAY-05

INFORMATION TELEPHONE NO.

(216) 566-2902

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT	UNITS	VAPOR PRESSURE
3	29911-28-2	1-(2-Butoxymethylethoxy)-propanol		
		ACGIH TLV Not Available		0.06 mm
		OSHA PEL Not Available		
3	112-34-5	2-(2-Butoxyethoxy)-ethanol		
		ACGIH TLV Not Available		0.06 mm
		OSHA PEL Not Available		
14	13463-67-7	Titanium Dioxide		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	10 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	

Section 3 -- HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE

EYES: Irritation.
SKIN: Prolonged or repeated exposure may cause irritation.
INHALATION: Irritation of the upper respiratory system.
In a confined area vapors in high concentration may cause headache, nausea or dizziness.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

Continued on page 2

Section 4 -- FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
SKIN: Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use.
INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
INGESTION: Do not induce vomiting. Get medical attention immediately.

Section 5 -- FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL
Not Applicable	N.A.	N.A.

FLAMMABILITY CLASSIFICATION
Not Applicable
EXTINGUISHING MEDIA
Carbon Dioxide, Dry Chemical, Alcohol Foam
UNUSUAL FIRE AND EXPLOSION HAZARDS
Closed containers may explode (due to the build-up of pressure) when exposed to extreme heat.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.
SPECIAL FIRE FIGHTING PROCEDURES
Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Section 6 -- ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove all sources of ignition. Ventilate the area.
Remove with inert absorbent.

Section 7 -- HANDLING AND STORAGE

STORAGE CATEGORY
Not Applicable
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE
Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

Continued on page 3

Section 8 -- EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

Wear gloves which are recommended by glove supplier for protection against materials in Section 2.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	10.00 lb/gal	1198 g/l
SPECIFIC GRAVITY	1.20	
BOILING POINT	212 - 449 F	100 - 231 C
MELTING POINT	Not Available	
VOLATILE VOLUME	58 %	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
pH	9.0	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical)

1.34 lb/gal	161 g/l	Less Water and Federally Exempt Solvents
0.67 lb/gal	80 g/l	Emitted VOC

Section 10 -- STABILITY AND REACTIVITY

STABILITY -- Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

Continued on page 4

HAZARDOUS POLYMERIZATION
Will not occur

Section 11 -- TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS
No ingredient in this product is an IARC, NTP or OSHA listed carcinogen. Rats exposed to titanium dioxide dust at 250 mg./m3 developed lung cancer, however, such exposure levels are not attainable in the workplace.

TOXICOLOGY DATA

CAS No.	Ingredient Name				
29911-28-2	1-(2-Butoxymethylethoxy)-propanol				
		LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available
112-34-5	2-(2-Butoxyethoxy)-ethanol				
		LC50	RAT	4HR	Not Available
		LD50	RAT		5660 mg/kg
13463-67-7	Titanium Dioxide				
		LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available

Section 12 -- ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION
No data available.

Section 13 -- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD
Waste from this product is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

Section 14 -- TRANSPORT INFORMATION

No data available.

Section 15 -- REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
	Glycol Ethers	3	

CALIFORNIA PROPOSITION 65
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Continued on page 5

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

Section 16 -- OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

THE SHERWIN-WILLIAMS COMPANY

INDUSTRIAL & MARINE COATINGS

Industrial and Marine Coatings

4.69

POLYSILOXANE XLE

EPOXY SILOXANE

PART A	B80W700	WHITE
PART B	B80V700	HARDENER

PRODUCT INFORMATION

1/04

PRODUCT DESCRIPTION

Polysiloxane XLE is a high performance, two-component, high solids epoxy siloxane that combines the properties of both a high performance epoxy and an polyurethane in one coat. Plus, it is free from isocyanates.

- Replaces a two coat epoxy/polyurethane system
- High-gloss, self-priming coating
- High solids, VOC compliant
- Long term color and gloss performance
- Corrosion and chemical resistant

RECOMMENDED USES

For use on prepared steel surfaces in industrial environments, including:

- Structural steel
- Tank exteriors
- Piping
- Industrial power plants
- Transportation
- Marine

Can be applied directly over inorganic zincs.

PRODUCT CHARACTERISTICS

Finish: Gloss

Color: White

Volume Solids: 90% ± 2%, mixed

Weight Solids: 92% ± 2%, mixed

VOC (EPA Method 24): 101 g/L; 0.84 lb/gal, mixed

Mix Ratio: 4:1 by volume

Recommended Spreading Rate per coat:

Wet mils:	3.5 - 8.0
Dry mils:	3.0 - 7.0
Coverage:	206 - 481 sq ft/gal, approximate

Drying Schedule 5.0 mils wet @ 50% RH:

	@50°F	@77°F	@100°F
To touch:	2 hours	1 hours	20 minutes
To handle:	16 hours	5 hours	2 hours
To recoat:			
minimum:	16 hours	4 hours	2 hours
maximum:	14 days	14 days	7 days
To cure:	7 days	7 days	7 days

If maximum recoat time is exceeded, abrade surface before recoating. Drying time is temperature, humidity and film thickness dependent.

Pot Life: 4 hours @ 77°F

Note: Pot life will be shorter with higher temperatures and larger volumes of material.

Sweat-in Time: None required @ 77°F

Shelf Life: 12 months, unopened
Store indoors at 40°F to 100°F

Flash Point: 80°F, PMCC, mixed

Reducer: Not recommended

Clean Up: Xylene, R2K4

PERFORMANCE CHARACTERISTICS

System Tested: (unless otherwise indicated)
Substrate: Steel
Surface Preparation: SSPC-SP6
Finish: 2 cts. Polysiloxane XLE @ 3.0 - 7.0 mils dft/ct

Abrasion Resistance:
Method: ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load
Result: 124 mg loss

Adhesion:
Method: ASTM D4541
Result: 1190 psi
Method: ASTM D3359
Result: 5A

Corrosion Weathering:
Method: ASTM D5894, 6 cycles, 2016 hours
Result: Rating 10 per ASTM D714 for Blistering
Rating 10 per ASTM D610 for Rusting

Direct Impact Resistance:
Method: ASTM D2794
Result: 25 in. lb.

Dry Heat Resistance:
Method: ASTM D2485
Result: 250°F

Pencil Hardness:
Method: ASTM D3363
Result: 3H

continued on back

THE SHERWIN-WILLIAMS COMPANY

INDUSTRIAL & MARINE COATINGS

Industrial and Marine Coatings

4.69

POLYSILOXANE XLE

EPOXY SILOXANE

PART A	B80W700	WHITE
PART B	B80V700	HARDENER

PRODUCT INFORMATION

RECOMMENDED SYSTEMS

Steel:
1-2 cts.* Polysiloxane XLE @ 3.0 - 7.0 mils dft/ct

Steel:
1 ct. Zinc Clad II Plus** @ 2.0 - 4.0 mils dft
1-2 cts. Polysiloxane XLE @ 3.0 - 7.0 mils dft/ct

*One coat acceptable in "light" industrial environments at 5.0 - 7.0 mils dft

**Other acceptable primers:
Macropoxy 646
Recoatable Epoxy Primer
Zinc Clad II LV

Galvanized:
1 ct. Macropoxy 646 @ 5.0 - 7.0 mils dft
1-2 cts. Polysiloxane XLE @ 3.0 - 7.0 mils dft/ct

Aluminum:
1 ct. Macropoxy 646 @ 5.0 - 7.0 mils dft
1-2 cts. Polysiloxane XLE @ 3.0 - 7.0 mils dft/ct

Masonry:
1 ct. Kem cati-Coat @ 10.0 - 20.0 mils dft
1-2 cts. Polysiloxane XLE @ 3.0 - 7.0 mils dft/ct

The systems listed above are representative of the product's use. Other systems may be appropriate.

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Refer to product Application Bulletin for detailed surface preparation information.

Minimum recommended surface preparation:

Iron & Steel	
Atmospheric:	SSPC-SP6 2.0 mil profile
Galvanized	SSPC-SP1 or blast lightly
Aluminum	SSPC-SP1 or blast lightly
Masonry	SSPC-SP13/NACE 6

TINTING

Do not tint.

APPLICATION CONDITIONS

Temperature (air, surface and material):
50°F minimum, 120°F maximum

At least 5°F above dew point

Relative humidity: 40% minimum, 85% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:	5 gallons mixed
Part A:	1 gallon in a 1 gallon container
	4 gallons in a 5 gallon container
Part B:	1 quart and 1 gallon

Weight per gallon: 11.13 ± 0.2 lb, mixed

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

The statements made herein are based on our research and/or the research of others believed to be accurate.
No guarantee of their accuracy is made however, and such statements may be changed without notice.
www.sherwin-williams.com

THE SHERWIN-WILLIAMS COMPANY

INDUSTRIAL & MARINE COATINGS

Industrial and Marine Coatings

4.69A
POLYSILOXANE XLE
EPOXY SILOXANE

PART A	B80W700	WHITE
PART B	B80V700	HARDENER

APPLICATION BULLETIN

1/04

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Iron & Steel
Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Minimum surface preparation is Commercial Blast Cleaning per SSPC-SP6. For better performance, use Near White Metal Blast Cleaning per SSPC-SP10. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils). Prime any bare steel the same day as it is cleaned or before flash rusting occurs.

Aluminum
Remove all oil, grease, dirt, oxide and other foreign material by Solvent Cleaning per SSPC-SP1or blast lightly.

Galvanized Steel
Allow to weather a minimum of six months prior to coating. Solvent Clean per SSPC-SP1 (recommended solvent is VM&P Naphtha) or blast lightly. When weathering is not possible, or the surface has been treated with chromates or silicates, first Solvent Clean per SSPC-SP1 and apply a test patch. Allow paint to dry at least one week before testing adhesion. If adhesion is poor, brush blasting per SSPC-SP7 is necessary to remove these treatments. Rusty galvanizing requires a minimum of Hand Tool Cleaning per SSPC-SP2, prime the area the same day as cleaned.

Concrete/Masonry, Atmospheric Service:

New
For surface preparation, refer to SSPC-SP13/NACE 6. Surface must be clean, dry, sound, and offer sufficient profile to achieve adequate adhesion. Minimum substrate cure is 28 days at 75°F. Remove all form release agents, curing compounds, salts, efflorescence, laitance, and other foreign matter by sandblasting, shotblasting, mechanical scarification, or suitable chemical means. Refer to ASTM D4260. Rinse thoroughly to achieve a final pH between 6.0 and 10.0. Allow to dry thoroughly prior to coating.

Old
Surface preparation is done in much the same manner as new concrete; however, if the concrete is contaminated with oils, grease, chemicals, etc., they must be removed by cleaning with a strong detergent. Refer to ASTM D4258. Form release agents, hardeners, etc. must be removed by sandblasting, shotblasting, mechanical scarification, or suitable chemical means. If surface deterioration presents an unacceptably rough surface, Kem Cati-Coat HS Epoxy Filler/Sealer is recommended to patch and resurface damaged concrete.

Always follow the industry standards listed below:
ASTM D4258 Standard Practice for Cleaning Concrete.
ASTM D4259 Standard Practice for Abrading Concrete.
ASTM D4260 Standard Practice for Etching Concrete.
ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete.
SSPC-SP13/NACE 6 Surface Preparation of Concrete.

APPLICATION CONDITIONS

Temperature (air, surface and material):
50°F minimum, 120°F maximum

At least 5°F above dew point

Relative humidity: 40% minimum, 85% maximum

APPLICATION EQUIPMENT

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compatible with the existing environmental and application conditions.

Reducer ..... Not recommended

Clean Up ..... Xylene, R2K4

Airless Spray
Unit ..... 30:1 pump
Pressure ..... 3000-3300 psi
Hose ..... 3/8" ID
Tip ..... .017" - .021"
Filter ..... 60 mesh

Conventional Spray
Gun ..... Binks 95
Tip and needle 66/65
Air cap ..... 65 PR
Atomization Pressure .. 75-95 psi
Fluid Pressure ..... 12-20 psi

Brush
Brush ..... Natural bristle

Roller
Cover ..... 3/8" woven with phenolic core

If specific application equipment is listed above, equivalent equipment may be substituted.

continued on back

THE SHERWIN-WILLIAMS COMPANY

Industrial and Marine Coatings

INDUSTRIAL & MARINE COATINGS

4.69A

POLYSILOXANE XLE

EPOXY SILOXANE

PART A	B80W700	WHITE
PART B	B80V700	HARDENER

APPLICATION BULLETIN

APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mix contents of each component thoroughly with power agitation. Make certain no pigment remains on the bottom of the can. Then combine four parts by volume of Part A with one part by volume of Part B. Thoroughly agitate the mixture with power agitation.

To ensure that no unmixed material remains on the sides or bottom of the cans after mixing, visually observe the container by pouring the material into a separate container.

Apply paint to the recommended film thickness and spreading rate as indicated below:

Drying Schedule 5.0 mils wet @ 50% RH:

	@50°F	@77°F	@100°F
To touch:	2 hours	1 hours	20 minutes
To handle:	16 hours	5 hours	2 hours
To recoat:			
minimum:	16 hours	4 hours	2 hours
maximum:	14 days	14 days	7 days
To cure:	7 days	7 days	7 days

If maximum recoat time is exceeded, abrade surface before recoating. Drying time is temperature, humidity and film thickness dependent.

Pot Life: 4 hours @ 77°F

Note: Pot life will be shorter with higher temperatures and larger volumes of material.

Sweat-in Time: None required @ 77°F

Application of coating above maximum or below minimum recommended spreading rate may adversely affect coating performance.

PERFORMANCE TIPS

Stripe coat all crevices, welds, and sharp angles to prevent early failure in these areas.

When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross spray at a right angle

Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness or porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, overthinning, climatic conditions, and excessive film build.

No reduction of material is recommended as this can affect film build, appearance, and adhesion.

Do not apply the material beyond recommended pot life.

Do not mix previously catalyzed material with new.

In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with Xylene, R2K4.

Refer to Product Information sheet for additional performance characteristics and properties.

CLEAN UP INSTRUCTIONS

Clean spills and spatters immediately with Xylene, R2K4. Clean tools immediately after use with Xylene, R2K4. Follow manufacturer's safety recommendations when using any solvent.

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

The statements made herein are based on our research and/or the research of others believed to be accurate.
No guarantee of their accuracy is made however, and such statements may be changed without notice.
www.sherwin-williams.com

ENVIRONMENTAL DATA SHEET
(Certified Product Data Sheet)

01 00 [2773]

THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115
02-FEB-04

This document includes all data required by 40 CFR 63.801(a) for a Certified Product Data Sheet under criteria specified in 40 CFR 63.805(a).
All data given below are MAXIMUM THEORETICAL VALUES based on the product AS CURRENTLY FORMULATED. Variations may occur on individual batches due to adjustments made during production.

* - Trade Mark

PRODUCT NUMBER
B60W700

PRODUCT NAME
Polysiloxane XLE Base (Part A), White

PRODUCT WEIGHT	SPECIFIC GRAVITY	FLASH POINT
11.71 lb/gal	1.41	138 F PMCC

HAZARD CATEGORY (for SARA 311/312)
Acute Chronic Fire

	SARA 302 EHS	CERC.	SARA 313 TC	HAPS 112	Pct by Wt	Pct by Vol
VOLATILE INGREDIENTS						
Not Applicable						

VOLATILE ORGANIC COMPOUNDS (follows U.S. EPA VOC Data Sheet)

A.	Coating Density	11.71 lb/gal	1402 g/l
B.	Total Volatiles	1.4 % by wt.	2.2 % by vol.
C.	Federally exempt solvents: Water	0.0 % by wt.	0.0 % by vol.
D.	Organic Volatiles	1.4 % by wt.	2.2 % by vol.
E.	Percent Non-Volatile	98.6 % by wt.	97.8 % by vol.
F.	VOC Content	0.15 lb/gal	18 g/l total
	1.	0.15 lb/gal	18 g/l less exempt solvents
	2.	0.16 lb/gal	19 g/l solids
		0.01 lb/lb	0.01 kg/kg solids

Continued on page 2

VOLATILE ORGANIC COMPOUNDS (follows U.S. EPA VOC Data Sheet)

A.	Coating Density	10.00 lb/gal	1198 g/l
B.	Total Volatiles	47.7 % by wt.	58.7 % by vol.
	Non organic volatiles: Ammonia	0.2 % by wt.	0.3 % by vol.
C.	Federally exempt solvents: Water	40.7 % by wt.	49.8 % by vol.
D.	Organic Volatiles	6.7 % by wt.	8.5 % by vol.
E.	Percent Non-Volatile	52.3 % by wt.	41.3 % by vol.
F.	VOC Content	0.67 lb/gal	80 g/l total
	1.	1.34 lb/gal	161 g/l less exempt solvents
	2.	1.63 lb/gal	195 g/l solids
		0.12 lb/lb	0.12 kg/kg solids

HAZARDOUS AIR POLLUTANTS (Clean Air Act, Section 112(b))

Volatile HAPS Pounds per Gallon	0.25 lbs/gal
Volatile HAPS Pounds per Gallon of Solids	0.61 lbs/gal
Volatile HAPS Pounds per Pound of Solids	0.04 lbs/lb

AIR QUALITY DATA

Density of Organic Solvent Blend	7.92 lbs/gal
Photochemically Reactive	NO
Maximum Incremental Reactivity (MIR) (per California Air Resources Board Method 310 proposed amendments for aerosol products)	0.18

WASTE DISPOSAL

Waste from this product is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Addition of reducers or other additives to this product may substantially alter the above data. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

MATERIAL SAFETY DATA SHEET

B80W700
01 00

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

B80W700

HMIS CODES

Health	2*
Flammability	2
Reactivity	0

PRODUCT NAME

Polysiloxane XLE Base (Part A), White

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

EMERGENCY TELEPHONE NO.

(216) 566-2917

DATE OF PREPARATION

14-JAN-04

INFORMATION TELEPHONE NO.

(216) 566-2902

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT	UNITS	VAPOR PRESSURE
68	Proprietary	Epoxy Polymer		
		ACGIH TLV	Not Available	
		OSHA PEL	Not Available	
25	13463-67-7	Titanium Dioxide		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	10 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	

Section 3 -- HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE

EYES: Irritation.
SKIN: Prolonged or repeated exposure may cause irritation.
INHALATION: Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

May cause allergic skin reaction in susceptible persons or skin sensitization.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

Continued on page 2

Section 4 -- FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

SKIN: Wash affected area thoroughly with soap and water. If irritation persists or occurs later, get medical attention. Remove contaminated clothing and launder before re-use.

INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

INGESTION: Do not induce vomiting. Get medical attention immediately.

Section 5 -- FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL
138 F PMCC	N.A.	N.A.

FLAMMABILITY CLASSIFICATION

Combustible, Flash above 99 and below 200 F

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Section 6 -- ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

Section 7 -- HANDLING AND STORAGE

STORAGE CATEGORY

DOL Storage Class II

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Contents are COMBUSTIBLE. Keep away from heat and open flame.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

Continued on page 3

Section 8 -- EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

Wear gloves which are recommended by glove supplier for protection against materials in Section 2.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PROTECTIVE EQUIPMENT

Use of barrier cream on exposed skin is recommended.

OTHER PRECAUTIONS

This product must be mixed with other components before use. Before opening the packages, READ AND FOLLOW WARNING LABELS ON ALL COMPONENTS.

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	11.71 lb/gal	1402 g/l
SPECIFIC GRAVITY	1.41	
BOILING POINT	Not Applicable	
MELTING POINT	Not Available	
VOLATILE VOLUME	2 %	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
VOLATILE ORGANIC COMPOUNDS	(VOC Theoretical)	
0.15 lb/gal	18 g/l	Less Water and Federally Exempt Solvents
0.15 lb/gal	18 g/l	Emitted VOC

Continued on page 4

Section 10 -- STABILITY AND REACTIVITY

STABILITY -- Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

Section 11 -- TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

Rats exposed to titanium dioxide dust at 250 mg./m3 developed lung cancer, however, such exposure levels are not attainable in the workplace.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

TOXICOLOGY DATA

CAS No.	Ingredient Name				
Proprietary	Epoxy Polymer				
		LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available
13463-67-7	Titanium Dioxide				
		LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available

Section 12 -- ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

Section 13 -- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

Section 14 -- TRANSPORT INFORMATION

No data available.

Continued on page 5

Section 15 -- REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element

No ingredients in this product are subject to SARA 313 (40 CFR 372.65C) Supplier Notification.

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

Section 16 -- OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liabilitv in connection with anv use of this information.

MATERIAL SAFETY DATA SHEET

B80V700
01 00

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

B80V700

HMIS CODES

Health	3*
Flammability	2
Reactivity	1

PRODUCT NAME

Polysiloxane XLE Hardener (Part B)

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

EMERGENCY TELEPHONE NO.

(216) 566-2917

DATE OF PREPARATION

14-JAN-04

INFORMATION TELEPHONE NO.

(216) 566-2902

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT			UNITS	VAPOR PRESSURE
2	100-41-4	Ethylbenzene				
			ACGIH TLV	100	ppm	7.1 mm
			ACGIH TLV	125	ppm STEL	
			OSHA PEL	100	ppm	
			OSHA PEL	125	ppm STEL	
12	1330-20-7	Xylene				
			ACGIH TLV	100	ppm	5.9 mm
			ACGIH TLV	150	ppm STEL	
			OSHA PEL	100	ppm	
			OSHA PEL	150	ppm STEL	
42	Proprietary	Polyamine				
			ACGIH TLV	Not Available		
			OSHA PEL	Not Available		

Section 3 -- HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE

EYES: Causes burns.
SKIN: Causes burns.
INHALATION: Causes burns of the upper respiratory system.
May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

Continued on page 2

For complete discussion of toxicology data refer to Section 11.

Section 4 -- FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes.
Get medical attention IMMEDIATELY.

SKIN: Wash affected area thoroughly with soap and water.
If irritation persists or occurs later, get medical attention.
Remove contaminated clothing and launder before re-use.

INHALATION: If affected, remove from exposure. Restore breathing.
Keep warm and quiet.

INGESTION: Do not induce vomiting.
Get medical attention immediately.

Section 5 -- FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL
106 F PMCC	1.0	7.0

FLAMMABILITY CLASSIFICATION

Combustible, Flash above 99 and below 200 F

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Section 6 -- ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

Section 7 -- HANDLING AND STORAGE

STORAGE CATEGORY

DOL Storage Class II

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Contents are COMBUSTIBLE. Keep away from heat and open flame.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

Continued on page 3

Section 8 -- EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.

Do not get in eyes, or on skin or clothing. Do not breathe vapor or spray mist.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

To prevent skin contact, wear gloves which are recommended by glove supplier for protection against materials in Section 2.

EYE PROTECTION

To prevent eye contact, wear safety spectacles with unperforated sideshields.

OTHER PROTECTIVE EQUIPMENT

Use barrier cream on exposed skin.

OTHER PRECAUTIONS

This product must be mixed with other components before use. Before opening the packages, READ AND FOLLOW WARNING LABELS ON ALL COMPONENTS.

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	7.86 lb/gal	941 g/l
SPECIFIC GRAVITY	0.95	
BOILING POINT	277 - 292 F	136 - 144 C
MELTING POINT	Not Available	
VOLATILE VOLUME	14 %	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical)

1.07 lb/gal	128 g/l	Less Water and Federally Exempt Solvents
1.07 lb/gal	128 g/l	Emitted VOC

Continued on page 4

Section 10 -- STABILITY AND REACTIVITY

STABILITY -- Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

Section 11 -- TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to the liver, urinary and reproductive systems.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

TOXICOLOGY DATA

CAS No.	Ingredient Name					
100-41-4	Ethylbenzene					
		LC50	RAT	4HR	Not Available	
		LD50	RAT		3500	mg/kg
1330-20-7	Xylene					
		LC50	RAT	4HR	5000	ppm
		LD50	RAT		4300	mg/kg
Proprietary	Polyamine					
		LC50	RAT	4HR	Not Available	
		LD50	RAT		Not Available	

Section 12 -- ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

Continued on page 5

Section 13 -- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

Section 14 -- TRANSPORT INFORMATION

No data available.

Section 15 -- REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
100-41-4	Ethylbenzene	2	
1330-20-7	Xylene	12	

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

Section 16 -- OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liabilitv in connection with anv use of this information.

THE SHERWIN-WILLIAMS COMPANY

INDUSTRIAL & MARINE COATINGS

Industrial and Marine Coatings

4.69

POLYSILOXANE XLE

EPOXY SILOXANE

PART A	B80W700	WHITE
PART B	B80V700	HARDENER

PRODUCT INFORMATION

RECOMMENDED SYSTEMS

Steel:
1-2 cts.* Polysiloxane XLE @ 3.0 - 7.0 mils dft/ct

Steel:
1 ct. Zinc Clad II Plus** @ 2.0 - 4.0 mils dft
1-2 cts. Polysiloxane XLE @ 3.0 - 7.0 mils dft/ct

*One coat acceptable in "light" industrial environments at 5.0 - 7.0 mils dft

**Other acceptable primers:
Macropoxy 646
Recoatable Epoxy Primer
Zinc Clad II LV

Galvanized:
1 ct. Macropoxy 646 @ 5.0 - 7.0 mils dft
1-2 cts. Polysiloxane XLE @ 3.0 - 7.0 mils dft/ct

Aluminum:
1 ct. Macropoxy 646 @ 5.0 - 7.0 mils dft
1-2 cts. Polysiloxane XLE @ 3.0 - 7.0 mils dft/ct

Masonry:
1 ct. Kem cati-Coat @ 10.0 - 20.0 mils dft
1-2 cts. Polysiloxane XLE @ 3.0 - 7.0 mils dft/ct

The systems listed above are representative of the product's use. Other systems may be appropriate.

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Refer to product Application Bulletin for detailed surface preparation information.

Minimum recommended surface preparation:

Iron & Steel	
Atmospheric:	SSPC-SP6 2.0 mil profile
Galvanized	SSPC-SP1 or blast lightly
Aluminum	SSPC-SP1 or blast lightly
Masonry	SSPC-SP13/NACE 6

TINTING

Do not tint.

APPLICATION CONDITIONS

Temperature (air, surface and material):
50°F minimum, 120°F maximum

At least 5°F above dew point

Relative humidity: 40% minimum, 85% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:	5 gallons mixed
Part A:	1 gallon in a 1 gallon container
	4 gallons in a 5 gallon container
Part B:	1 quart and 1 gallon

Weight per gallon: 11.13 ± 0.2 lb, mixed

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

The statements made herein are based on our research and/or the research of others believed to be accurate.
No guarantee of their accuracy is made however, and such statements may be changed without notice.
www.sherwin-williams.com

THE SHERWIN-WILLIAMS COMPANY

INDUSTRIAL & MARINE COATINGS

Industrial and Marine Coatings

4.69

POLYSILOXANE XLE

EPOXY SILOXANE

PART A	B80W700	WHITE
PART B	B80V700	HARDENER

PRODUCT INFORMATION

RECOMMENDED SYSTEMS

Steel:
1-2 cts.* Polysiloxane XLE @ 3.0 - 7.0 mils dft/ct

Steel:
1 ct. Zinc Clad II Plus** @ 2.0 - 4.0 mils dft
1-2 cts. Polysiloxane XLE @ 3.0 - 7.0 mils dft/ct

*One coat acceptable in "light" industrial environments at 5.0 - 7.0 mils dft

**Other acceptable primers:
Macropoxy 646
Recoatable Epoxy Primer
Zinc Clad II LV

Galvanized:
1 ct. Macropoxy 646 @ 5.0 - 7.0 mils dft
1-2 cts. Polysiloxane XLE @ 3.0 - 7.0 mils dft/ct

Aluminum:
1 ct. Macropoxy 646 @ 5.0 - 7.0 mils dft
1-2 cts. Polysiloxane XLE @ 3.0 - 7.0 mils dft/ct

Masonry:
1 ct. Kem cati-Coat @ 10.0 - 20.0 mils dft
1-2 cts. Polysiloxane XLE @ 3.0 - 7.0 mils dft/ct

The systems listed above are representative of the product's use. Other systems may be appropriate.

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Refer to product Application Bulletin for detailed surface preparation information.

Minimum recommended surface preparation:

Iron & Steel	
Atmospheric:	SSPC-SP6 2.0 mil profile
Galvanized	SSPC-SP1 or blast lightly
Aluminum	SSPC-SP1 or blast lightly
Masonry	SSPC-SP13/NACE 6

TINTING

Do not tint.

APPLICATION CONDITIONS

Temperature (air, surface and material):
50°F minimum, 120°F maximum

At least 5°F above dew point

Relative humidity: 40% minimum, 85% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:	5 gallons mixed
Part A:	1 gallon in a 1 gallon container
	4 gallons in a 5 gallon container
Part B:	1 quart and 1 gallon

Weight per gallon: 11.13 ± 0.2 lb, mixed

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

The statements made herein are based on our research and/or the research of others believed to be accurate.
No guarantee of their accuracy is made however, and such statements may be changed without notice.
www.sherwin-williams.com

THE SHERWIN-WILLIAMS COMPANY

Industrial and Marine Coatings

EnviroSpec™

SHER-CRYL™ HPA

HIGH PERFORMANCE ACRYLIC

B66-300 Series Gloss
B66-350 Series Semi-Gloss

INDUSTRIAL & MARINE COATINGS

APPLICATION BULLETIN

Revised 1/02

Surface Preparation

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Do not use hydrocarbon solvents for cleaning.

Iron & Steel

Minimum surface preparation is Hand Tool Clean per SSPC-SP2. Remove all oil and grease from surface by Steam Cleaning per SSPC-SP1. For better performance, use Commercial Blast Cleaning per SSPC-SP6. Primer recommended for best performance.

Aluminum

Remove all oil, grease, dirt, oxide and other foreign material by Steam Cleaning per SSPC-SP1.

Galvanizing

The surface should be weathered for 6 months prior to painting. Remove all oil and grease by Steam Cleaning per SSPC-SP1. Rusty galvanizing requires a minimum of Hand Tool Cleaning per SSPC-SP2.

Concrete and Masonry

For surface preparation, refer to SSPC-SP13/NACE 6. Surfaces should be thoroughly cleaned and dry. Surface temperatures must be at least 55°F before filling. If required for a smoother finish, use Heavy Duty Block Filler, B42W46. Filler must be thoroughly dry before topcoating per manufacturer's recommendations.

Weathered masonry and soft or porous cement board must be brush blasted or power tool cleaned to remove loosely adhering contamination and to get to a hard, firm surface. Apply one coat ProMar Masonry Conditioner, following label recommendations.

Wood

Surface must be clean, dry and sound. Prime with recommended primer. No painting should be done immediately after a rain or during foggy weather. Knots and pitch streaks must be scraped, sanded and spot primed before full coat of primer is applied. All nail holes or small openings must be properly caulked.

Pre-Finished Siding:

Remove oil, grease, dirt, oxides, and other contaminants from the surface by cleaning per SSPC-SP1 or water blasting per NACE Standard RP-01-72. Always checks for compatibility of the previously painted surface with the new coating by applying a test patch of 2 - 3 square feet. Allow to dry thoroughly for 1 week before checking adhesion. DTM Bonding Primer is required.

Previously Painted Surfaces

If in sound condition, clean the surface of all foreign material. Smooth, hard or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, additional abrasion of the surface and/or removal of the previous coating may be necessary. Retest surface for adhesion. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above.

Application Conditions

Temperature:	50°F minimum, 120°F maximum (air, surface, and material) At least 5°F above dew point
Relative humidity:	85% maximum

Application Equipment

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compatible with existing environmental and application conditions.

Reducer/Clean Up ..... Water

Airless Spray

Pressure	1500 psi
Hose	1/4" ID
Tip	.017" - .021"
Filter	60 mesh
Reduction	Not recommended

Conventional Spray

Gun	Binks 95
Fluid Nozzle	66
Air Nozzle	63PB
Atomization Pressure	50 psi
Fluid Pressure	15-20 psi
Reduction	As needed up to 12½%by volume

Brush

Brush	Nylon / polyester
Reduction	Not recommended

Roller

Cover	3/8" woven with phenolic core
Reduction	Not recommended

If specific application equipment is listed above, equivalent equipment may be substituted.

continued on back

THE SHERWIN-WILLIAMS COMPANY

Industrial and Marine Coatings

EnviroSpec™

INDUSTRIAL & MARINE COATINGS

SHER-CRYL™ HPA

HIGH PERFORMANCE ACRYLIC

B66-300 SERIES GLOSS
B66-350 SERIES SEMI-GLOSS

APPLICATION BULLETIN

APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mixing Instructions: Mix paint thoroughly by boxing and stirring before use.

Apply paint at the recommended film thickness and spreading rate as indicated below:

Recommended Spreading Rate per coat:

Wet mils:	6.0 - 10.0
Dry mils:	2.5 - 4.0
Coverage:	154 - 247 sq ft/gal approximate

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 7.0 mils wet 50% RH:

	@ 50°F	@ 77°F	@ 120°F
To touch:	1 hours	30 minutes	5 minutes
Tack free:	8 hours	5 hours	15 minutes
To recoat:	8 hours	5 hours	15 minutes
To cure:	30 days	30 days	30 days

Drying time is temperature, humidity, and film thickness dependent.

Application of coating above maximum or below minimum recommended spreading rate may adversely affect coating performance.

PERFORMANCE TIPS

Stripe coat all crevices, welds, and sharp angles to prevent early failure in these areas.

When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross spray at a right angle

During the early stages of drying, the coating is sensitive to rain, dew, high humidity, and moisture condensation. If possible, plan painting schedules to avoid these influences during the first 16-24 hours of curing.

Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness or porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, overthinning, climatic conditions, and excessive film build.

Excessive reduction of material can affect film build, appearance, and adhesion.

Application temperature above 95°F may cause dry spray, uneven sheen, and poor adhesion.

Application temperature below 50°F may cause poor adhesion and lengthen the drying and curing time.

High Performance Acrylic is extremely sensitive to hydrocarbon containing solvents. When cleaning the surface per SSPC-SP1, use only an emulsifying industrial detergent, followed by a water rinse. Do not use hydrocarbon containing solvents.

Do not use hydrocarbon solvents for cleaning.

Refer to Product Information sheet for additional performance characteristics and properties.

CLEAN UP INSTRUCTIONS

Clean spills and spatters immediately with soap and warm water. Clean hands and tools immediately after use with soap and warm water. After cleaning, flush spray equipment with Mineral Spirits to prevent rusting of the equipment. Follow manufacturer's safety recommendations when using Mineral Spirits.
NOTE: If coating is allowed to "set-up", Reducer #54, R7K54, may be required for cleaning. Follow manufacturer's safety recommendations when using Reducer #54.

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

ENVIRONMENTAL DATA SHEET
(Certified Product Data Sheet)

06 00 [1343]

THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115
02-FEB-04

This document includes all data required by 40 CFR 63.801(a) for a Certified Product Data Sheet under criteria specified in 40 CFR 63.805(a).
All data given below are MAXIMUM THEORETICAL VALUES based on the product AS CURRENTLY FORMULATED. Variations may occur on individual batches due to adjustments made during production.

* - Trade Mark

PRODUCT NUMBER
B66W300

PRODUCT NAME
SHER-CRYL* HPA High Performance Acrylic Coating, Ultra White

PRODUCT WEIGHT	SPECIFIC GRAVITY	FLASH POINT
10.31 lb/gal	1.24	N.A.

HAZARD CATEGORY (for SARA 311/312)
Acute

	SARA 302 EHS	CERC.	SARA 313 TC	HAPS 112	Pct by Wt	Pct by Vol
VOLATILE INGREDIENTS						
2-(2-Methoxyethoxy)-ethanol 111-77-3	N	N	***	***	2	2
Propylene Glycol 57-55-6	N	N	N	N	1	1
Trimethylpentanediol Isobutyrate 25265-77-4	N	N	N	N	4	5
Water 7732-18-5	N	N	N	N	42	53
REGULATED COMPOUNDS						
*** Glycol Ethers	N	N	Y	Y	2	

Continued on page 2

VOLATILE ORGANIC COMPOUNDS (follows U.S. EPA VOC Data Sheet)

A.	Coating Density	10.31 lb/gal	1234 g/l
B.	Total Volatiles	49.7 % by wt.	52.4 % by vol.
	Non-organic volatiles: Ammonia	0.2 % by wt.	0.4 % by vol.
C.	Federally exempt solvents: Water	42.2 % by wt.	52.8 % by vol.
D.	Organic Volatiles	7.3 % by wt.	9.3 % by vol.
E.	Percent Non-Volatile	50.3 % by wt.	37.6 % by vol.
F.	VOC Content	0.74 lb/gal	89 g/l total
	1.	1.58 lb/gal	189 g/l less exempt solvents
	2.	1.99 lb/gal	238 g/l solids
		0.14 lb/lb	0.14 kg/kg solids

HAZARDOUS AIR POLLUTANTS (Clean Air Act, Section 112(b))

Volatile HAPS Pounds per Gallon	0.16 lbs/gal
Volatile HAPS Pounds per Gallon of Solids	0.44 lbs/gal
Volatile HAPS Pounds per Pound of Solids	0.03 lbs/lb

AIR QUALITY DATA

Density of Organic Solvent Blend	8.02 lbs/gal
Photochemically Reactive	NC
Maximum Incremental Reactivity (MIR) (per California Air Resources Board Method 310 proposed amendments for aerosol products)	0.12

WASTE DISPOSAL

Waste from this product is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Addition of reducers or other additives to this product may substantially alter the above data. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER
B66W300

HMIS CODES
Health 2
Flammability 0
Reactivity 0

PRODUCT NAME
SHER-CRYL* HPA High Performance Acrylic Coating, Ultra White

MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

EMERGENCY TELEPHONE NO.
(216) 566-2917

DATE OF PREPARATION
29-MAY-05

INFORMATION TELEPHONE NO.
(216) 566-2902

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT	UNITS	VAPOR PRESSURE
2	111-77-3	2-(2-Methoxyethoxy)-ethanol		
		ACGIH TLV Not Available		1 mm
		OSHA PEL Not Available		
23	13463-67-7	Titanium Dioxide		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	10 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	

Section 3 -- HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE
INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE
EYES: Irritation.
SKIN: Prolonged or repeated exposure may cause irritation.
INHALATION: Irritation of the upper respiratory system.
In a confined area vapors in high concentration may cause headache, nausea or dizziness.

SIGNS AND SYMPTOMS OF OVEREXPOSURE
Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
None generally recognized.

CANCER INFORMATION
For complete discussion of toxicology data refer to Section 11.

Continued on page 2

Section 4 -- FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
SKIN: Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use.
INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
INGESTION: Do not induce vomiting. Get medical attention immediately.

Section 5 -- FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL
Not Applicable	N.A.	N.A.

FLAMMABILITY CLASSIFICATION
Not Applicable
EXTINGUISHING MEDIA
Carbon Dioxide, Dry Chemical, Alcohol Foam
UNUSUAL FIRE AND EXPLOSION HAZARDS
Closed containers may explode (due to the build-up of pressure) when exposed to extreme heat.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.
SPECIAL FIRE FIGHTING PROCEDURES
Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Section 6 -- ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove all sources of ignition. Ventilate the area.
Remove with inert absorbent.

Section 7 -- HANDLING AND STORAGE

STORAGE CATEGORY
Not Applicable
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE
Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

Continued on page 3

Section 8 -- EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

Wear gloves which are recommended by glove supplier for protection against materials in Section 2.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	10.31 lb/gal	1235 g/l
SPECIFIC GRAVITY	1.24	
BOILING POINT	212 - 500 F	100 - 260 C
MELTING POINT	Not Available	
VOLATILE VOLUME	62 %	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
pH	9.0	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical)

1.58 lb/gal	189 g/l	Less Water and Federally Exempt Solvents
0.74 lb/gal	89 g/l	Emitted VOC

Section 10 -- STABILITY AND REACTIVITY

STABILITY -- Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

Continued on page 4

HAZARDOUS POLYMERIZATION
Will not occur

Section 11 -- TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS
No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.
Rats exposed to titanium dioxide dust at 250 mg./m3 developed lung cancer, however, such exposure levels are not attainable in the workplace.

TOXICOLOGY DATA

CAS No.	Ingredient Name				
111-77-3	2-(2-Methoxyethoxy)-ethanol				
		LC50	RAT	4HR	Not Available
		LD50	RAT		5500 mg/kg
13463-67-7	Titanium Dioxide				
		LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available

Section 12 -- ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION
No data available.

Section 13 -- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD
Waste from this product is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

Section 14 -- TRANSPORT INFORMATION

No data available.

Section 15 -- REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
	Glycol Ethers	2	

CALIFORNIA PROPOSITION 65
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
TSCA CERTIFICATION
All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

Continued on page 5

Section 16 -- OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.